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# INDIA WEATHER REVIEW, 1937.

## ANNUAL SUMMARY.

### PART C.

#### STORMS AND DEPRESSIONS.

##### **DEPRESSIONS AND CYCLONIC STORMS.**

During the year 6 storms and 9 depressions formed in the Bay of Bengal, 1 depression in the Arabian Sea and 3 depressions over the land area. The dates on which the storms occurred and the greatest barometric depths observed are summarised in the Table below :—

Locality.	Month.	Date.	Greatest observed barometric depth.
Bay of Bengal . . .	April . . .	27th—30th	0·30"
Ditto. . . .	June . . .	19th—30th	0·40"
Ditto. . . .	July . . .	19th—26th	0·35"
Ditto. . . .	September . .	25th—30th	0·50"

Locality.	Month.	Date.	Greatest observed barometric depth.
Bay of Bengal . . .	October . .	11th—15th	0·50"
Ditto. . . .	December . .	26th—29th	0·40"

The detailed descriptions of these storms and depressions are, as usual, followed by a list of western disturbances of the year, of the more important local storms, and of the localities in which winds of force 9 or more were experienced by ships in the Indian Seas.

1. *Depression of 12th to 17th April 1937 in the Bay of Bengal and associated shallow depression of the 19th April 1937 in the Arabian Sea.*—The first indications of unsettled weather were seen in the south Andaman Sea on the morning of the 13th and by the morning of the 15th a depression formed with centre in the neighbourhood of latitude 10°N., longitude 89°E. The following ships' observations along with those at Port Blair are interesting in this connection.

Name of station or ship.	Date.	Hr. of obsn. (I. S. T.)	POSITION.		WIND.		Sea.	Swell.	Remarks.
			Lat. N	Long. E	Dir.	For.			
Port Blair . . . . .	15th April 1937.	0719	° °	° °	SSE	3	Mod.	..	Cloudy.
S. S. Tanfield . . . . .	" " .	0830	10 18	87 18	NE/N	4	Mod.	Confused	Partly clouded.
S. S. Rajput . . . . .	" " .	0630	08 24	84 36	NW/W	2	Sl.	Low	Int. sl. rain.
S. S. Silksworth . . . . .	" " .	0736	11 09	88 30	ENE	3	Mod.	..	Overcast.

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The depression moved in a northwesterly direction and on the morning of the 16th it was centred near latitude  $12\frac{1}{2}^{\circ}$ N, longitude  $85\frac{1}{2}^{\circ}$ E. Thereafter, unlike the April depressions, it moved rapidly westnorthwestward, and, crossing the Coromandel coast between Madras and Nellore by noon of the 17th, advanced as a low pressure wave across the Peninsula and accentuated a low pressure area off the Konkan-Kanara coast on the 18th. This depression was shallow, with central region near latitude  $15^{\circ}$ N, longitude  $71^{\circ}$ E on the morning of the 19th. After the initial intensification, it weakened rapidly and lingering as a trough of low pressure over the east Arabian Sea for a couple of days, became unimportant by the morning of the 22nd. While in the Bay of Bengal, the depression induced an incursion of moist air into northeast India resulting in widespread thunderstorms over the region from the Central Provinces to Assam between the 18th and 20th. Widespread and locally heavy rain also occurred in the Peninsula between the 16th and 20th.

Some noteworthy falls are given below :—

District.	Station.	17th.	18th.	19th.
Tinnevelly . .	Tuticorin . .	" 5	" ..	" ..
Travancore . .	Alwaye . .	" ..	5	" ..

District.	Station.	17th.	18th.	19th.
Travancore . .	Perumpavur . .	" ..	5	" ..
Coorg . .	Pulingoth . .	" ..	5	" ..
Kurnool . .	Kodumur . .	" ..	" ..	12
Kareemnagar . .	Peddapalli . .	" ..	" ..	8
Kolar . .	Chintamani . .	" ..	5	" ..

2. *Severe storm of 27th to 30th April 1937 in the Bay of Bengal.*—On the morning of the 27th a low pressure wave was moving westwards into the Andaman Sea from the Gulf of Siam and during the course of the next 24 hours, a depression formed in the north Andaman Sea off the Tenasserim coast with centre near latitude  $14^{\circ}$ N, longitude  $97^{\circ}$ E. The following observations received from Amherst and ships are of interest :—

Name of station or ship.	Date.	Hr. of obsn. (I. S. T.)	Position.		Bar.	Wind.		Cloud kind and amount.	Sea.	Swell.	Remarks at the time of obsn.	Remarks.
			Lat. N.	Long. E.		Dir.	For.					
Amherst . .	28th April 1937.	0700	16 05	97 34	29.65	ENE	2	Sct	Calm	" ..	" ..	....
S. S. Jalatarang .	Do. .	0706	15 38	95 53	29.69	N	4	Cb <sub>10</sub>	Sl.	Low	Showery .	Overcast and passing showers.
S. S. Hongkhonr .	Do. .	0630	12 04	97 00	29.63	W	6	10	..	Mod.	Int. heavy rain.	....

As Martaban coast was approached from the southwest, S. S. Jalaratna experienced heavy rainsqualls of increasing frequency from the northwest between the 28th and 29th. While moving in a northwesterly direction the depression intensified into a severe storm and crossed the Martaban coast about 50 miles to the east of Diamond Island on the 29th by noon. At 0200 I. S. T., S. S. Singu situated at

latitude  $15^{\circ}$  N, longitude  $95^{\circ}$  E reported northwesterly squalls, with wind force 12. The highest deficit of pressure from normal recorded in the central region was of the order of 0.32".

The following observations from Diamond Island and ships indicate the intensity of the storm with its subsequent abatement by the evening of the 29th.

Name of station or ship.	Date.	Hr. of obsn. (I. S. T.)	Position.		Wind.		Cloud kind and amount.	Bar. tendency.	Sea.	Swell.	Remarks at the time of obsn.	Remarks.
			Lat. N.	Long. E.	Dir.	For.						
Diamond Island .	29th April 1937.	0200	15 52	94 17	NW	5	Sc <sub>10</sub>	-09	..	..	Cont. sl. rain	Rain.
Ditto . .	Do. .	0713	15 52	94 17	NW	7	Nb <sub>10</sub>	..	Sm.	Low	Rain, fog .	Do.
Ditto . .	Do. .	1100	15 52	94 17	NW	6	Nb <sub>10</sub>	0	Sl.	Mod.	Do. .	Do.
Ditto . .	Do. .	1400	15 52	94 17	W	6	Nb <sub>10</sub>	0	Sl.	Low	Int. mod. rain.	Do.
Ditto . .	Do. .	1700	16 52	94 17	W	4	Sc <sub>10</sub>	0	Sm.	Low	Rain .	Do.
S. S. Singu . .	Do. .	0200	15 01	95 18	W	10	..	..	..	..	..	0130 fierce NW squalls, wind force reaching 12.
Ditto . .	Do. .	0400	14 45	95 19	WSW	8/9	Nb <sub>10</sub>	-13	Very high	Heavy	Rain and squall.	Poor visibility. Int. heavy rain throughout watch.
Ditto . .	Do. .	0709	14 08	95 19	W/S	7	{ Cb, Nb <sub>10</sub> }	-16	Very rough.	Heavy	Overcast .	Visibility fair.
Ditto . .	Do. .	1200	13 22	95 16	WSW	6/7	Cb <sub>10</sub>	-01	Do.	Heavy	Do. .	Clear weather.
Ditto . .	Do. .	1600	12 40	95 19	W/S	6	Sc <sub>10</sub>	..	Do.	Heavy	Do. .	
S. S. Chakdina .	Do. .	0716	15 30	93 33	SSW	6	Sc <sub>10</sub>	..	Ro./V. ro	Mod.	Do. .	
S. S. Jalaratna .	Do. .	0200	14 18	93 16	NW	3	As <sub>10</sub>	-06	Mod.	Mod.	Do. .	Heavy rainsqualls lasted for 40 minutes.
Ditto . .	Do. .	0400	14 26	93 34	NW	4	As <sub>10</sub>	-02	Mod.	Mod.	Rain .	Passing rainsqualls.
Ditto . .	Do. .	0712	14 46	94 09	NW	4-5	As <sub>10</sub>	-01	Ro.	Mod.	Do. .	
Ditto . .	Do. .	1200	15 08	94 42	NW	3-4	St <sub>10</sub>	-06	V. Ro.	Mod.	Do. .	Passed heavy rainsqualls frequently.
Ditto . .	Do. .	1600	15 22	95 20	SW	2-3	Cb <sub>10</sub>	0	Ro.	Mod.	Overcast .	Squally weather.

After crossing the coast the storm moved in a northerly direction, weakened rapidly and lay near Yamethin on the morning of the 30th as a shallow depression and then became unimportant. During the passage of the storm, widespread and locally heavy rain fell in Burma. Some noteworthy falls are given in the following table:—

District.	Station.	27th.	28th.	29th.	30th.
Mergui . . .	Victoria Point .	9	..	..	..
Do. . . .	Mergui . . .	..	..	5	..
Tavoy . . .	Launglon .	..	..	5	..
Thaton . . .	Kyaikto .	..	..	7	..
Thayetmyo . .	Sinbaugwe .	..	..	8	..
Magwe . . .	Taungdwingyi .	..	..	5	..
Do. . . .	Yenangyaung .	..	..	..	5

3. Shallow depression of 12th to 15th June 1937 in the Arabian Sea.—Unsettled conditions appeared off Kanara on the 12th, and, extending northwards, developed on the 14th into a shallow depression of small extent near latitude 19°N, longitude 70°E. On the morning of the 15th the depression was centred within a hundred miles west of Veraval. It then moved away northwestwards and merged into the seasonal low pressure area over northwest India causing an influx of warm moist air from the Arabian Sea right up to the western Himalayas. The depression was responsible for the establishment of the monsoon over the Konkan. Although during its life history the depression was only of small extent and never deep, it nevertheless caused widespread heavy rain over Konkan-Kanara districts as seen below:—

District.	Station.	15th.	16th.	17th.	18th.
Sholapur . . .	Pandharpur .	..	..	..	5
Thana . . . .	Bassein .	..	..	6	..
Kolaba . . .	Mangaon .	..	..	..	5
Ratnagiri . .	Ratnagiri .	..	..	5	..
Do. . . .	Devgad .	6	..	..	..

District.	Station.	15th.	16th.	17th.	18th.
Ratnagiri . .	Rajapur .	..	..	..	5
Do. . . .	Dapoli .	..	..	8	5
Do. . . .	Mandangad .	..	..	..	7
Kanara . . .	Karwar .	..	..	..	5
Do. . . .	Ankola .	..	5	..	6
Do. . . .	Kumta .	..	5	..	..
Do. . . .	Honavar .	..	8	..	5
Do. . . .	Bhatkal .	..	5	..	6

4. Storm of 19th to 30th June 1937 in the Bay of Bengal.—On the morning of the 18th June a marked fall of barometric pressure was noticed in the north of the Bay of Bengal and widespread heavy rain fell along the Arakan coast. The pressure continued to fall in the north Bay during the next 24 hours and by the morning of the 20th a depression formed at the head of the Bay with centre about one hundred miles to the east of Sandheads. During the course of the next 24 hours the depression deepened and moving in an eastnortheasterly direction lay on the morning of the 21st off the Chittagong coast where it remained without much movement during the next two days. By the morning of the 23rd it intensified into a storm with its centre at 8 hours near Cox's Bazar. The highest pressure defect from normal near the centre was of the order of 0.42". Moving slowly in a northeasterly direction the storm was centred on the morning of the 24th near Chittagong. It then weakened into a depression and passed inland into southeast Bengal by the evening of the 24th. It remained there without much movement until the morning of the 26th when it again intensified and became deep. Moving in a westerly direction the deep depression was centred about 40 miles westnorthwest of Calcutta on the morning of the 27th. It lay between Pendra and Ranchi on the morning of the 28th and was near Jubbulpore on the next day. It then moved in a northwesterly direction and was centred near Kotah on the 30th and merged into the seasonal trough of low pressure over the northwest India by the next day.

During the passage of the depression through west Bengal hundreds of thatched houses were reported to have been blown away and many big trees uprooted. The disturbance caused vigorous monsoon along the Arakan and Bengal coasts between the 24th and 25th, and thereafter, an extension of the monsoon over the central parts of the

country and into the United Provinces, east Rajputana and Sind, with locally heavy rain along and near its track.

Some of the noteworthy amounts are given in the following table:—

District.	Station.	19th.	20th.	21st.	22nd.	23rd.	24th.	25th.	26th.	27th.	28th.
24-Parganas	Canning Town	..	..	..	..	..	..	14	..	..	..
Khulna	Rampal	..	..	..	..	..	..	..	8	..	..
Bankura	Taldangra	6	..	..	..	..	..	..	..	..	..
Midnapore	Midnapore	..	..	..	..	..	..	..	..	6	..
Do.	Amlag	..	..	..	..	..	..	..	..	7	..
Do.	Salholi	..	..	..	..	..	..	..	..	6	..
Do.	Kharaghpur	..	..	..	..	..	..	..	..	6	..
Howrah	Uluberia	..	..	..	..	..	..	..	..	6	..
Do.	Amta	..	..	..	..	..	..	..	..	6	..
Baikerganj	Patuakhali	..	..	..	..	..	..	..	..	6	..
Do.	Baguna	..	..	..	..	..	..	..	..	6	..
Chittagong	Cox's Bazar	..	6	..	..	..	..	..	..	7	..
Do.	Chittagong	..	..	..	..	..	..	..	..	9	..
Do.	Kutubdia	..	..	8	8	5	5	..	..	8	..
Do.	Lama	..	..	..	..	6	..	..	..	..	..
Hill Tracts	Nakhyongchhari	..	9	6	..	5	..	..	..	..	..
Sambalpur	Sambalpur	..	..	..	..	..	..	..	..	7	..
Do.	Bargarh	..	..	..	..	..	..	..	..	..	7
Do.	Jharsuguda	..	..	..	..	..	..	..	..	10	..
Do.	Ambabbona	..	..	..	..	..	..	..	..	10	..
Do.	Bijipur	..	..	..	..	..	..	..	..	..	8
Ganjam	Balandapara	..	..	..	..	..	..	..	..	..	6

5. Shallow depression of 1st to 3rd July 1937 in the Bay of Bengal.—On the morning of the 1st July a concentrated fall of pressure occurred off the Orissa—Circars coast. By the

morning of the 2nd a shallow depression formed in the northwest angle of the Bay with its centre at 11 hours about 50 miles southeast of Chandbali.

Without further intensification the depression crossed the Orissa coast near Balasore by the early morning of the 3rd and became unimportant thereafter.

*6. Depression of 10th to 13th July 1937 in the Bay of Bengal.*—The isobaric chart on the morning of the 10th July showed that weather was markedly unsettled off the Orissa—Circars coast.

By the evening of the 10th a depression formed off the Orissa coast with central region near latitude 19°N, longitude 88°E. It moved rapidly in a northwesterly direction and crossed the Orissa coast between Puri and Chandbali by 11 hours of the 11th. Continuing to move westnorthwestwards the depression was over the east Central Provinces on the morning of the 12th and over the west Central Provinces on the morning of the 13th and filled up near Kotah by the morning of the 14th.

In association with this depression the monsoon was vigorous or strong, accompanied with locally heavy falls, in the Central Provinces, the northern half of the Peninsula, west Central India, Gujarat and Rajputana.

Some noteworthy falls are given in the following table:—

District.	Station.	12th.	13th.	14th.	15th.	16th.	17th.
Raipur .	Rajim .	5	..	..	..	..	..
Do. .	Saraipali .	5	..	..	..	..	..
Do. .	Mahasamund. .	5	..	..	..	..	..
Bhandara .	Baihar .	..	..	..	..	..	7
Balaghpat .	Ahmadpur .	..	..	..	..	..	5
Chhindwara	Lakhnadon .	..	..	..	..	..	5
Wardha .	Wardha .	8	..	..	..	..	..
Do. .	Hingaghpat .	5	5	..	..	..	..

*7. Land depression of 16th to 18th July 1937.*—On the 16th a low pressure area extended from southwest Bengal to the southwest United Provinces. It deepened into a shallow depression over the east Central Provinces near Pendra on the 17th, and merged into the seasonal low over the Gangetic Plain on the 18th.

Some of the noteworthy amounts of rainfall are given below:—

District.	Station.	16th.	17th.	18th.	19th.
Jalpaiguri .	Buxa .	..	..	5	..
Noakhali .	Lakshmpur .	..	..	8	..
Rewa State .	Tyonthar .	8	..	..	..
Mandla .	Bichhia .	..	8	..	..
Balaghpat .	Bihar .	..	7	..	..
D. .	Ahmadpur .	..	..	..	5
Chhindwara .	Lakhnadon .	..	..	..	5
Dehra Dun .	Dehra .	7	..	..	..
Jalaun .	Jalaun .	5	..	..	..
Banda .	Manikpur .	..	5	..	..
Partabgarh .	Kunda .	9	..	..	..
D. .	Partabgarh .	..	..	9	..

*8. Storm of 19th to 26th July 1937 in the Bay of Bengal.*—On the morning of the 19th a trough of low pressure extended from the north Andaman Sea to off Orissa—Circars coast. By the morning of the 21st a cyclonic circulation was noticeable with central region about latitude 18½°N, longitude 88½°E, and the next day a deep depression formed with centre at 8 hours within half a degree of latitude 19°N, longitude 89°E. The observations from the following ships are interesting in this connection.

Name of ship.	Date.	Hr. of obser. (I. S. T.)	Position.		Wind.		Sea.	Swell.	Remarks.
			Lat. N.	Long. E.	Dir.	For.			
S. S. Singu .	21st July 1937.	0830	20 18	88 24	ENE	4	Slight.	Mod. from South.	
S. S. Winkfield .	Do.	Do.	20 00	87 30	NE/E	2	Smooth.	Sl. from south.	
S. S. Rahamani .	22nd July 1937.	Do.	18 18	87 18	W/N	3	Slight.	Sl. from SW	Continuous slight rain.
S. S. Shwedagon .	Do.	Do.	19 36	89 36	E	3	Slight.	Mod. from south.	Rainshowers.
S. S. Sumatra Maru .	Do.	0723	17 30	91 48	SW	7	Very high.		

While moving in a northnorthwesterly direction the deep depression intensified into a cyclonic storm on the 23rd, with centre at 8 hrs. near latitude  $20\frac{1}{2}^{\circ}\text{N}$ , longitude  $88^{\circ}\text{E}$ . The highest pressure defect from normal near the centre was of the order of  $0.35''$ . The storm then moved in a northwesterly direction and while crossing the Orissa coast between Chandbali and Balasore in the early morning of the 24th weakened. At 8 hrs. of the same day it lay as a deep depression over Orissa. Moving thereafter in a westnorthwesterly direction it lay over the east Central Provinces on the morning of the 25th and was centred near Saugor on the morning of the 26th and later became unimportant.

The disturbance caused locally very heavy rain along and near its track and under its influence the monsoon was vigorous or strong generally from Orissa and Chota Nagpur to east Rajputana and Gujarat.

Some of the noteworthy falls are given in the table below :—

District.	Station.	23rd.	24th.	25th.	26th.
		"	"	"	"
Bankura . . .	Siromanipur . . .	..	..	..	10
Midnapore . . .	Tamluk . . .	..	..	6	..
Howrah . . .	Uluberia . . .	..	..	..	6
Cuttack . . .	Jagatsingpur . . .	..	12	..	..
Do. . .	Banki . . .	..	6	..	..
Do. . .	Cuttack . . .	..	9	..	..
Do. . .	Kendrapara . . .	..	11	..	..
Do. . .	Jajpur . . .	..	6	..	..
Do. . .	Dharamshala . . .	..	7	..	..
Do. . .	Salepur . . .	..	10	..	..
Do. . .	Binjharpur . . .	..	6	..	..
Do. . .	Korai . . .	6	..	..	..
Do. . .	Barchana . . .	..	8	..	..
Do. . .	Patamundai . . .	..	6	..	..
Do. . .	Chhendipada . . .	..	6	..	..
Do. . .	Tikarpura (Purnakot)	..	6	..	..
Puri . . .	Kurda . . .	9	..	..	..
Do. . .	Bhubaneswar . . .	..	10	..	..
Sambalpur . . .	Sambalpur . . .	..	12	..	..
Do. . .	Bargarh . . .	..	9	..	..
Do. . .	Dhama . . .	..	7	..	..
Do. . .	Ambabhona . . .	..	7	..	..
Ganjam . . .	Balandapara . . .	..	6	..	..

9. *Land depression of 29th July 1937.*—A depression formed over Bengal near Berhampore. Without any appreciable movement it filled up by the 1st of August.

Some of the noteworthy rainfalls are given in the following table :—

District.	Station.	28th.	29th.	30th.
Darrang . . .	Boreli . . .	5	..	..
Lakhimpur. . .	North Lakhimpur . . .	..	..	5
Do. . .	Dhakuakhana . . .	5	..	..
Do. . .	Harmati . . .	5	..	..
Bankura . . .	Maliara . . .	..	..	6
Do. . .	Gangajalghati . . .	..	..	11
Do. . .	Raipur . . .	..	..	5
Do. . .	Saranga . . .	..	..	5
Do. . .	Indpur . . .	..	..	7
Darjeeling . . .	Kalimpong . . .	..	..	6
Bakarganj . . .	Pirojpur . . .	5	..	..
Chittagong . . .	Rangunia . . .	6	..	..
Chittagong Hill tracts . . .	Bandarban . . .	6	..	..
Ditto . . .	Lama . . .	7	..	..
Gaya . . .	Aurangabad . . .	..	..	5
Do. . .	Gaya . . .	..	..	6
Do. . .	Nabinagar . . .	..	..	9
Shahabad . . .	Dehri . . .	..	..	8
Do. . .	Arrah . . .	..	..	5
Do. . .	Koath . . .	..	..	5

10. *Depression of 1st to 3rd August 1937 in the Bay of Bengal.*—In association with a low pressure wave across Arakan, conditions became unsettled in the Bay of Bengal on the morning of the 1st. The unsettled conditions intensified by the evening into a depression with central region near latitude  $20^{\circ}\text{N}$ , longitude  $90^{\circ}\text{E}$ . By the morning of the 2nd the depression was centred at 8 hours, within half degree of latitude  $21^{\circ}\text{N}$ , longitude  $89^{\circ}\text{E}$ . It moved west-northwestwards and crossing the coast between Saugor Island and Balasore by the early hours of the 3rd was lying between Pendra and Daltonganj on the morning of the 4th. It filled up near Pendra by the 6th.

The depression caused widespread and locally heavy rain from west Bengal to the United Provinces and Central India during its passage and was responsible for strengthening of the monsoon over the above region and its extension into

the Punjab hills and over the Peninsula. Some of the important falls are noted below :—

District.	Station.	2nd.	3rd.
Sambalpur . . .	Nawapara . . .	..	8
Ganjam . . .	Balandapara . . .	7	6
Shahabad . . .	Mahania . . .	5	..
Do. . . .	Ghauri . . .	5	..

11. *Land depression of 21st to 27th August 1937.*—By the evening of the 21st a low pressure area developed over west Bengal and Chota Nagpur which, after moving in a northwesterly direction during the next 3 days, was centred as a depression near Sutna on the morning of the 25th. The next day it moved to Nowgong and filled up by the 27th. Under its influence the monsoon revived over northeast India, the United Provinces, the central parts of the country and east Rajputana.

Some falls of 6" and above are given below :—

District.	Station.	20th.	21st.	22nd.	23rd.	24th.	25th.	26th.	27th.	28th.
Sibsagar . . .	Nazira . . . . .	..	..	..	..	..	6	..	..	..
Cachar .	Devan . . . . .	..	..	..	..	..	..	..	7	..
24-Parganas . . .	Budge-Budge . . . . .	..	..	..	..	6	..	..	..	..
Bankura . . .	Maliara . . . . .	..	..	..	..	7	..	..	..	..
Do. . . .	Barjora . . . . .	..	..	..	..	6	..	..	..	..
Hooghly . . .	Chanditala . . . . .	..	..	..	7	..	..	..	..	..
Howrah . . .	Howrah . . . . .	..	..	..	..	6	..	..	..	..
Jalpaiguri . . .	Bura . . . . .	6	..	..	..	..	..	..	..	..
Mymensingh . . .	Durgapur . . . . .	..	..	..	..	..	..	..	..	6
Bakarganj . . .	Bhola . . . . .	..	..	..	..	..	..	7	..	..
Do. . . .	Patuakhali . . . . .	..	..	..	..	..	..	..	..	6
Chittagong Hill Tracts .	Nakhyongchhari . . . . .	..	..	..	..	..	9	..	..	..
Ganjam . . .	Gopalpur . . . . .	..	..	..	..	8	..	..	..	..
Do. . . .	Berhampur . . . . .	..	..	..	..	6	..	..	..	..
Koraput . . .	Pottanghi . . . . .	..	..	..	..	6	..	..	..	..
Do. . . .	Koraput . . . . .	..	..	..	..	6	..	..	..	..
Do. . . .	Nowrangapur . . . . .	..	..	..	..	8	..	..	..	..
Do. . . .	Parlakimadi . . . . .	..	..	..	..	6	..	..	..	..
Do. . . .	Gunupur . . . . .	..	..	..	..	7	..	..	..	..
Do. . . .	Gumma . . . . .	..	..	..	..	7	..	..	..	..
Patna . . . .	Naubatpur . . . . .	..	9	..	..	..	..	..	..	..
Dehra Dun . . .	Dehra . . . . .	..	..	7	..	..	..	..	..	..
Do. . . .	Rajpur . . . . .	..	..	7	..	..	..	..	..	..
Do. . . .	Bhogpur . . . . .	..	..	6	..	..	..	..	..	..
Do. . . .	Raipur . . . . .	..	..	6	..	..	..	..	..	..
Jhansi . . . .	Jhansi . . . . .	..	..	..	..	..	6	..	..	..
Ghazipur . . . .	Saidpur Bhitari . . . . .	..	..	..	..	..	6	..	..	..
Bundelkhand . . .	Dhanwahi . . . . .	..	..	..	..	..	..	7	..	..
Do. . . .	Bijawar . . . . .	..	..	..	..	..	..	8	..	..

District.	Station.	20th.	21st.	22nd.	23rd.	24th.	25th.	26th.	27th.	28th.
Bundelkhand . . .	Nowgong . . .	" . . .	" . . .	" . . .	" . . .	" . . .	" . . .	6	" . . .	" . . .
Raipur . . .	Raipur . . .	" . . .	" . . .	" . . .	8	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Simga . . . .	" . . .	" . . .	" . . .	6	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Mahasamund . . .	" . . .	" . . .	" . . .	6	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Kurud . . . .	" . . .	" . . .	" . . .	" . . .	7	" . . .	" . . .	" . . .	" . . .
Do. . . .	Kukerdehi . . . .	" . . .	" . . .	" . . .	7	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Pindraon . . . .	" . . .	" . . .	" . . .	8	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Lakhoti . . . .	" . . .	" . . .	" . . .	7	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Kumhari . . . .	" . . .	" . . .	" . . .	11	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Kanki . . . .	" . . .	" . . .	" . . .	7	" . . .	" . . .	" . . .	" . . .	" . . .
Bilaspur . . . .	Bilaspur . . . .	" . . .	" . . .	8	" . . .	" . . .	" . . .	" . . .	" . . .	" . . .
Do. . . .	Pondi Lafa . . . .	" . . .	" . . .	" . . .	6	" . . .	" . . .	" . . .	" . . .	" . . .
Saugor . . . .	Jabera . . . .	" . . .	" . . .	" . . .	" . . .	" . . .	6	" . . .	" . . .	" . . .
Do. . . .	Hardua Marar . . . .	" . . .	" . . .	" . . .	" . . .	" . . .	7	" . . .	" . . .	" . . .
Do. . . .	Majgahan Hansraj . . . .	" . . .	" . . .	" . . .	" . . .	" . . .	6	" . . .	" . . .	" . . .
Do. . . .	Mala Inspection Bungalow . . . .	" . . .	" . . .	" . . .	" . . .	" . . .	7	" . . .	" . . .	" . . .
Jubbulpore . . . .	Khitoli . . . .	" . . .	" . . .	" . . .	" . . .	" . . .	8	" . . .	" . . .	" . . .
Do. . . .	Amari . . . .	" . . .	" . . .	" . . .	" . . .	" . . .	8	" . . .	" . . .	" . . .
Balghat . . . .	Lanji . . . .	" . . .	" . . .	" . . .	11	8	" . . .	" . . .	" . . .	" . . .
Do. . . .	Wara Main . . . .	" . . .	" . . .	" . . .	8	6	" . . .	" . . .	" . . .	" . . .

12. Depression of 3rd to 11th September 1937 in the Bay of Bengal.—A low pressure wave presumably associated with two typhoons in the China Sea between the 29th August and 2nd September, travelled westwards across Burma and conditions became unsettled in the north Bay on the morning of the 2nd and a depression formed on the next day with centre at 8 hours about 90 miles eastsouth-east of Puri.

The depression moved in a westnorthwesterly direction and crossed coast near Puri by about 2 A.M. of the 4th and

lay over Orissa with its centre about 50 miles to the north of Cuttack at 8 hours of the 4th. By the morning of the 4th, the circulations supported by the upper winds at Calcutta, Sambalpur and Vizagapatam showed that although the surface isobaric low was inland, the unsettled conditions still persisted out at sea off Puri, which concentrated at 8 hours by the morning of the 5th into a depression centred between Chandbali and Saugor Island. It moved northwestwards, and passing inland near Balasore during the night, lay on the next morning over Orissa and Chota Nagpur

with its centre between Ranchi and Sambalpur. Thereafter moving in a westnorthwesterly direction it travelled across central parts of the country. It was centred near Bhopal on the 8th morning, and passing through Rajputana and Sind, merged into the seasonal low over northwest India by the 11th. Under its influence there was a revival of the monsoon and fairly widespread rain fell in northeast India between the 2nd and 8th, in central parts of the country and the United Provinces between 3rd and 7th and in Gujarat and Rajputana between 7th and 10th with locally heavy falls along and near the tracks.

The following stations recorded, at 8 hours on the dates mentioned against each, rainfall of 5 inches or more :—

District.	Station.	4th.	5th.	6th.
Cuttack . . .	Salepur . . .	..	7	..
Puri . . .	Khuda . . .	..	8	..
Do. . . .	Bhubaneswar . . .	..	5	..
Do. . . .	Pipli . . .	..	6	..
Sambalpur . . .	Sambalpur . . .	..	..	7
Do. . . .	Padampur . . .	6	..	..
Do. . . .	Nawapara . . .	6	..	..
Ranchi . . . .	Chainpur . . .	6	..	..

13. Depression of 10th to 16th September 1937 in the Bay of Bengal.—A trough of low pressure extended from the Arakan coast to Bihar on the 9th September, and, with a further fall of pressure over the sea on the 10th, it developed into a depression in the east central Bay of Bengal by the morning of the 11th September with its central region near latitude 18°N, longitude 90°E.

During the course of next 24 hours the depression moved northnorthwestwards and lay with centre about 50 miles to the southeast of Sandheads at 8 hours on the 12th. It passed inland near Balasore by early morning of the 13th and lay over southwest Bengal with its centre about 100 miles westsouthwest of Calcutta next morning. Moving northwestwards it was centred near Sutna on the morning of the 14th and near Agra on the 15th. Thereafter, taking a little more northerly course it broke up against the hills of the Punjab and the United Provinces during the course of next 24 hours.

In connection with this depression an extension of rain occurred round the head of the Bay of Bengal between the 10th and 11th, rainfall also extending and being fairly widespread generally in northeast India between the 12th and 14th and in central parts of the country, the United Provinces, east Rajputana and the southeast Punjab between the 14th and 16th.

Several stations along and near the path of the depression recorded very heavy rain. According to newspaper reports floods occurred in the east Punjab with consequent heavy damage to property; several villages were washed away and many people rendered homeless.

Some of the falls of 5" and over recorded on different days during the period of the activity of the depression are given below :—

District.	Station.	12th.	13th.	14th.	15th.	16th.	17th.	18th.	19th.
Murshidabad . . .	Lalbagh . . .	..	..	..	..	..	..	..	5
Pabna . . .	Shazadpur . . .	..	..	..	..	..	..	..	6
Mymensingh . . .	Kishorganj . . .	7	..	..	..	..	..	..	..
Do. . . .	Durgapur . . .	..	..	..	..	..	..	..	..
Cuttack . . . .	Barchana . . .	..	5	..	..	..	..	..	..
Balasore . . . .	Soro . . .	..	5	..	..	..	..	..	..
Gaya . . . .	Nabinagar . . .	..	5	..	..	..	..	..	..
Palamau . . . .	Chas . . .	..	..	..	..	..	..	..	5
Manbhumi . . . .	Tundi . . .	..	..	..	..	..	..	..	..
Singhbhum . . . .	Majhgaon . . .	..	5	..	..	..	..	..	..

14. Severe storm of 25th to 30th September 1937 in the Bay of Bengal.—With the passage of a low pressure wave from the east across Tenasserim conditions became slightly unsettled in the Andaman Sea on the 25th morning. The unsettled condition concentrated slightly during the course of the next 24 hours into a shallow depression with its centre about 80 miles to the westnorthwest of Diamond Island. This depression moved northwestwards intensifying at the same time and was centred in the neighbourhood

of latitude 19°N, longitude 89°E on the morning of the 27th.

Moving northwards it rapidly intensified into a severe cyclone by the early morning of the 28th. It was centred near Saugor Island at 8 hours of that day. The pressure deficiency near its centre at that time must have been at least 0.50". Observations of some of the steamers which were in the storm field and were consequently experiencing winds of gale force or more are given in the following table :—

Name of steamer.	Date.	Hr. of observation. (I. S. T.)	Position.		Bar.	T.	Wind.		Sea.	Swell.	Remarks.
			Lat N.	Long E.			Dir.	For.			
S. S. Akbar . .	27th	2000	19 48	87 12	29.90	82	WSW	3	Sl.	Low from SE	
" . .	28th	0730	20 36	88 00	29.56	79	SW/W	7	Ro.	Heavy from SW	Cont. heavy rain (sq.).
" . .	"	0800	20 00	88 24	29.78	79	SW/W	6/7	V. Ro.	Heavy from SW.	
" . .	"	2000	19 30	88 30	29.84	83	SW	5/6	Ro.	Mod. from SW	
S. S. Shewdagon .	"	0830	19 42	89 42	29.74	82	S	7	Ro.	Heavy from S.	Drizzle.
S. S. Bangalen .	"	0830	20 12	88 54	29.68	79	S/W	8	Hi.	Heavy from SW.	Int. heavy rain.
" . "	1130	20 12	88 54	29.71	77	SSW	8	Hi.	Mod. from SW	Cont. rain (sq).	

#### D. V. "Dumayne".

(Bearing 195° and distance 28 nautical miles from Fort William, Calcutta.)

Weather statement from midnight 27th September to 6 A.M. 29th September.

Date.	Time. (I. S. T.)	Bar.*	T.	Wind.		Remarks.
				Dir.	For.	
27th . .	2400	29.60	84	NE	4—5	Squally, cloudy.
28th . .	0100	29.59	84	ENE	4—5	Squally with continuous rain.
	0200	29.57	84	NE/E	4—5	Squally and overcast, sea slight.
	0300	29.55	84	NE/E	4—5	Squally and overcast, sea slight to moderate.
	0400	29.53	82	ENE	4—5	Squally and overcast, sea moderate.
	0500	29.53	81	NE/E	4—5	Squally and overcast, sea slight to moderate. Swung to ebb.
	0700	29.54	80	ENE	5—6	Heavy rainsqualls, overcast, sea moderate. Let go 2nd anchor and veered port anchor to 90 fathoms.
	0800	29.53	79	ENE	6	Heavy rainsqualls, sea moderate.
	0900	29.53	80	ENE	6	Heavy rainsqualls, overcast, sea moderate.
	1000	29.49	78	E/N	6—7	Heavy rainsqualls, overcast, sea moderate to rough.

\*All barometer readings are corrected.

## D. V. "Dumayne"—contd.

Date.	Time. (I. S. T.)	Bar.*	T.	Wind.		Remarks.
				Dir.	For.	
28th—contd.	1100	29.43	79	ESE	7—8	Heavy rainsqualls and intensifying, sea rough.
	1200	29.39	80	ESE	8	Heavy rainsqualls, overcast, sea rough.
	1300	29.34	82	SE	7—8	Heavy rainsqualls, overcast, sea rough.
	1400	29.32	82	SSE	8	Heavy rainsqualls and increasing, sea rough.
	1500	29.25	80	SSE	8—9	Terrific rainsqualls, sea very rough.
	1600	29.27	80	S	8	Heavy rainsqualls, overcast, sea rough.
	1700	29.26	80	SSW	9	Terrific rainsqualls with continuous rain, heavily overcast, sea very rough, engines as required.
	1900	29.28	81	S/W	9	Terrific rainsqualls, heavily overcast, sea very rough to high.
	2000	29.33	80	S/W	9	Terrific rainsqualls and intensifying, heavily overcast, high seas.
	2100	29.35	80	S/W	10	Tremendous rainsqualls, with increasing force, high seas, vessels dragging slightly, veered out 90 fathoms on Stbd. cable. Shipping seas on main deck.
	2300	29.45	78	S/W	10	Tremendous rainsqualls, heavily overcast, high seas and shipping aboard.
	2400	29.51	78	S/W	8—9	Heavily overcast, visibility fair, high seas. Weather abating.
29th	0200	29.53	78	SSW	7	Cloudy, visibility fair, sea rough.
	0300	29.54	78	SW/S	6	Squally and overcast, visibility fair, sea rough.
	0400	29.58	80	SW	5	Squally and overcast, visibility fair, sea moderate.
	0500	29.58	80	SW	5	Squally and overcast, visibility fair, sea moderate.
	0600	29.61	80	SW	4—5	Overcast, visibility good, sea moderate.

\*All barometer readings are corrected.

## R. S. V. "Waterwitch".

(Bearing 138° and distance 13½ nautical miles from Fort William, Calcutta.)

Meteorological readings observed on board R. S. V. "Waterwitch" anchored off Ball Beacon on Tuesday, the 28th September and Wednesday, the 29th September, 1937.

Date.	Time. (I. S. T.)	Wind.		Bar.	T.	Remarks.
		Dir.	For.			
28th	0600	NE	5	29.62	76	Overcast, squall.
	0800	NE/N	6	.65	76	Overcast, squall, rain.
	1000	NE/N	8	.62	75	Do.
	1200	NE/N	8	.52	75	Do.
	1300	NE/N	9	.47	75	Do.

*R. S. V. " Waterwitch "*—contd.

Date	Time. (I. S. T.)	Wind.		Bar.	T.	Remarks.
		Dir.	For.			
28th— <i>contd.</i>	1400	NE/N	9	29.39	74	Overcast, squall, rain.
	1500	E	9	·37	75	Do.
	1600	ENE	11	·31	75	Do.
	1615	E	..	·29	75	Do.
	1700	ESE	11	·28	75	Do.
	1730	SE/E	12	·26	75	Do.
	1745	SE/E	12	·25	75	Do.
	1800	SE/E	12	·24	76	Do.
	1815	SE/E	12	·23	76	Do.
	1830	SE/E	12	·23	76	Do.
	1845	SE/E	12	·23	76	Do.
	1900	SE/E	10	·22	76	Do.
	1915	SE/E	10	·21	76	Do.
	1945	SE/E	8	·23	76	Do.
29th	2000	SE/E	7	·23	76	Do.
	2030	ESE	8	·23	76	Do.
	2300	S	8	·20	74	Do.
	2400	W	12	·30	74	Do.
	0015	W/S	12	29.32	..	Overcast, rain squall.
	0030	W/S	12	·33	..	Overcast, rain, squall, lightning.
	0045	WSW	12	·35	..	Do.
	0100	WSW	12	·37	..	Do.
	0115	WSW	12	·39	..	Do.
	0130	WSW	12	·41	..	Do.
	0145	WSW	12	·43	..	Do.
	0200	W/S	12	·45	..	Do.
	0215	W/S	12	·47	..	Overcast, rain, squall, gust at intervals of about 2 minutes.
	0230	SW	12	·47	..	Overcast, squall.
	0245	SW	11	·48	..	Overcast, squall, wind uniform.
	0300	SW	9	·49	..	Overcast, squall. Wind gradually decreasing. Gusts at approximate 65 m. p. h.
	0315	SW/S	6	·51	..	Overcast, squall.
	0330	S/W	5	·51	..	Overcast, squall. Gusts at approximately 50 m. p. h.
	0645	S/W	..	·64	..	Overcast, squall. Storm expended.

*L. V. Meteor on the Eastern Channel Station.*

Latitude 21°, longitude 88°14'

Date.	Hour (I. S. T.)	Wind.		Bar.	T.	Remarks.
		Dir.	For.			
27th	02	E	2	29.86	85	Dull.
	04	NE	2	·86	84	Do.
	06	NE	2	·86	84	Do.
	08	NE	3	·90	83	Rain.
	10	NE	4	·88	83	Do.
	12	NE	5	·83	82	Storm.
	14	NE	6	·74	82	Do.
	16	NE	6	·67	81	Do.
	18	ENE	6	·64	81	Do.
	20	ENE	6	·64	82	Do.
	22	ENE	6	·63	82	Do.
	24	ENE	8	·64	82	Do.
28th	02	SSE	9	·43	81	Severe storm.
	04	SE	9	·42	80	Do.
	06	SE	8	·48	80	Do.
	08	SE	8	·55	80	Do.
	10	SE	8	·66	80	Do.
	12	SE	8	·70	81	Do.
	14	S	8	·69	80	Do.
	16	S	8	·70	82	Do.

*L. V. Meteor on the Eastern Channel Station—contd.*

Date.	Hour (I. S. T.)	Wind.		Bar.	T.	Remarks.
		Dir.	For.			
28th— <i>contd.</i>	18	SW	8	29.72	82	Severe storm.
	20	SW	8	·76	82	Do.
	22	SW	8	·76	82	Do.
	24	SW	8	·76	82	Do.
	02	SW	7	·76	82	Storm.
	04	SW	7	·78	82	Do.
	06	SW	7	·79	82	Do.
	08	SW	7	·88	79	Do.
	10	SW	7	·90	80	Do.
	12	SW	7	·89	80	Do.
	14	S	7	·82	80	Do.
	16	S	6	·82	79	Do.
29th	18	S	6	·82	82	Do.
	20	S	6	·90	82	Do.
	22	S	6	·94	82	Do.
	24	S	6	·95	82	Do.

The cyclone moved into Bengal and passed close to Calcutta during the night. It weakened after passing Calcutta and lay as a storm near Burdwan on the morning of the 29th. The observations given below will give an idea of the depth and severity of the cyclone :—

*Sandheads.*

Date.	Hour (I. S. T.)	Presture Departure.	Wind.		Sea.	Swell.	Remarks.
			Dir.	For.			
27th	08	+·05	NE	3	Slight . . .	Low . . .	Thunderstorm, rain.
	15	—·08	NE	6	Rough . . .	Mod. . . .	Showers of slight or moderate rain.
	17	—·13	NNE	7	Do. . . .	Heavy . . .	Squall.
	19	—·17	SE	7	Do. . . .	Do. . . .	Do.
	23	—·27	N/W	8	Very rough . . .	Do. . . .	Do.
28th	02	—·33	WNW	6	Rough . . .	Do. . . .	Cont. sl. drizzle.
	04	—·43	W/N	9	Very rough . . .	Do. . . .	Do.

## Sandheads—contd.

Date.	Hour. (I. S. T.)	Pressure Departure.	Wind.		Sea.	Swell.	Remarks.
			Dir.	For.			
28th—contd.	05	"	W	9	Very rough . . .	Heavy . . .	Rain-shower.
	06	—38	W	9	Do. . . .	Do. . . .	Cont. sl. drizzle.
	07	—39	WSW	10	Very high . . .	Do. . . .	Cont. heavy rain.
	08	—41	WSW	9	High . . . .	Do. . . .	Cont. mod. rain.
	09	—33	WSW	10	Do. . . .	Do. . . .	Do.
	10	—27	WSW	9	Very rough . . .	Do. . . .	Do.
	11	—23	SW/W	8	Do. . . .	Do. . . .	Do.
	12	—17	SW	8	Do. . . .	Do. . . .	Rain.
	13	—15	SW	7	Rough . . . .	Mod. . . .	Int. sl. drizzle.
	14	—14	SW/W	7	Do. . . .	Do. . . .	Do.
	15	—13	SW/W	8	Very rough . . .	Heavy . . .	Cont. sl. rain.
	16	—11	SW/W	7	Rough . . . .	Mod. . . .	Rain.
	17	—11	SW	6	Do. . . .	Do. . . .	Squall.
	18	—15	SW	7	Do. . . .	Do. . . .	Rain-shower.
	19	—16	SW	8	Very rough . . .	Heavy . . .	Int. sl. drizzle.
	20	—12	W	8	Do. . . .	Do. . . .	Slight thunderstorm with rain.
	21	—12	W	8	Do. . . .	Do. . . .	Thunderstorm and rain.
	22	—12	SW	7	Rough . . . .	Do. . . .	Int. heavy rain.
	23	—11	W/SW	8	Do. . . .	Mod. . . .	Frequent heavy squalls or gusts of forces above 9. Int. heavy rain.
	24	—09	SW	8	Do. . . .	Do. . . .	Heavy thunderstorms with rain.
29th	01	—08	SW	5	Mod. . . .	Do. . . .	Thunderstorms rain.
	02	—06	SW	6	Rough . . . .	Do. . . .	Cont. sl. drizzle.
	03	—06	SW	6	Mod. . . .	Do. . . .	Int. sl. drizzle.
	04	—04	SW	6	Rough . . . .	Do. . . .	Cont. sl. drizzle.

*Saugor Island.*

Date.	Hour. (I. S. T.)	Pressure Departure.	Wind.		Sea.	Swell.	Remarks.
			Dir.	For.			
27th . . .	08	+·04	NNE	3	Sm.	.	.
	15	—·02	ENE	4	Sl.	.	.
	17	—·04	ENE	4	Calm	.	.
	19	—·09	NNE	6	....	....	Distant lightning.
	23	—·19	NNE	5	....	....	Squall.
28th . . .	02	—·31	ENE	6	....	....	Int. sl. drizzle.
	04	—·40	NE	6	....	....	
	05	—·37	ENE	..	....	....	Heavy squall.
	06	—·45	ENE	..	....	....	Rain.
	07	—·48	ENE	..	....	....	Squall.
	08	—·46	ENE	..	....	....	
	09	—·50	ENE	..	Very rough	.	Mod. . . .
	10	—·58	E	2	Sl.	.	....
	11	—·65	ESE	4	Mod.	.	Mod. . . .
	12	—·58	S	6	Rough	.	Do. . . .
	13	—·54	SSE	7	Very rough	.	Do. . . .
	14	—·58	S	9	....	....	Do.
	15	—·47	S	9	....	....	Do.
	16	—·45	SSW	9	....	....	Do.
	17	—·38	SSW	9	....	....	Do.
29th . . .	18	—·34	SSW	9	....	....	Do.
	19	—·31	SSW	8	....	....	Do.
	20	—·24	SSW	8	....	....	Do.
	21	—·22	SSW	8	....	....	Do.
	22	—·20	SSW	7	....	....	Squall.
	23	—·17	SSW	5	....	....	Do.
	00	—·12	SSW	5	....	....	Do.
	01	—·10	WSW	5	....	....	Distant lightning.
	02	—·08	WSW	5	....	....	Do.
	03	—·09	WSW	4	....	....	Do.
	04	—·08	SW	3	....	....	Do.
	05	—·08	SW	5	....	....	Squall.

*Calcutta.**Calcutta—contd.*

Date.	Hour. (I. S. T.)	Pressure Depart- ture.	Wind.		Remarks.			Wind.	Remarks.
			Dir.	For.					
27th .	08	"	ENE	1	Thunderstorm.  Unusual gustiness.  Do.		13	"	E (g)
	15	+·03	ESE	2			14	—·25	E (g)
	17	—·00	E	2			15	—·25	E (g)
	19	—·01	E (g)	3			16	—·27	E (g)
	23	—·07	ESE (g)	3			17	—·27	E (g)
28th .	01	—·07	E (g)	4	Continuous slight rain.		18	—·31	E (g)
	02	—·08	E (g)	3	Do.		19	—·34	E (g)
	03	—·09	ESE (g)	3	Intermittent thick drizzle.		20	—·38	E (g)
	04	—·09	ESE (g)	3	Intermittent slight drizzle.		21	—·40	ESE (g)
	05	—·07	E (g)	3	Drizzle.		22	—·45	SE (g)
	06	—·10	ENE (g)	3	Slight or moderate drizzle or rain.		23	—·45	S (g)
	07	—·10	ENE (g)	3	Intermittent slight drizzle.		24	—·39	SW
	08	—·10	ENE (g)	4	Continuous slight drizzle.	29th . .	01	—·33	SW (g)
	09	—·09	ENE (g)	4	Continuous moderate rain.		02	—·26	SW (g)
	10	—·11	ENE (g)	5	Do.		03	—·21	SW (g)
	11	—·17	ENE (g)	6	Continuous slight rain.		04	—·17	SW (g)
	12	—·17	ENE (g)	5	Slight or moderate drizzle and rain.		05	—·13	SW (g)

NOTE.—(g) represents unusual gustiness.

It weakened further during the course of next 24 hours and lay as a deep depression about 70 miles east of Gaya at 8 hours of the 30th and filled up over Bihar by the next day.

In connection with this cyclone winds of gale and hurricane force prevailed in the northwest angle of the Bay and southwest Bengal and widespread and locally heavy rain occurred in and around Bengal between the 27th September and 2nd October and in Bihar on the 30th September and 1st October. The stormy weather associated with the depression according to press reports was responsible for the dislocation of steamer and boat traffic in the Port of Calcutta and caused widespread damage to property in west Bengal and Bihar, resulting in the sinking of boats, uprooting of trees and dislocation of telegraph and telephone lines.

Some of the heavy falls recorded at stations on different dates during the period of activity of the cyclone are given below :—

District.	Station.	28th Sept.	29th Sept.	30th Sept.	1st Oct.	2nd Oct.
Murshidabad	Jangipur	..	..	6	..	..
Do.	Dumkal	..	..	5	..	..
Do.	Kallyanganj (Ishanpur).	..	..	6	..	..
Khulna	Moreganj	..	6	..	..	..
Bankura	Kotalpur	6	..	..	..	..
Do.	Sonamukhi	6	..	..	..	..
Do.	Siromanipur	..	6	..	..	..
Midnapur	Tamluk	..	10	..	..	..
Do.	Kukrahati	..	6	..	..	..
Do.	Chandrakona	7	..	..	..	..
Do.	Nayabasan	..	6	..	..	..
Do.	Narayangarh	..	6	..	..	..
Do.	Jenka (Khajri)	..	7	..	..	..
Do.	Balichak	..	6	..	..	..
Do.	Kharagpur	..	6	..	..	..
Howrah	Uluberia	..	7	..	..	..
Rajshahi	Boalia (Obsy.)	..	..	7	..	..
Do.	Mahadebpur	..	5	5	..	..
Do.	Tanor	..	..	6	..	..
Dinajpur	Nithpur	..	..	8	..	..
Do.	Ithapur	..	6	7	..	..

District.	Station.	28th Sept.	29th Sept.	30th Sept.	1st Oct.	2nd Oct.
Dinajpur	Raiganj	..	..	..	6	..
Do.	Balurghat	..	..	..	5	19
Do.	Thakurgaon	..	..	..	5	7
Do.	Sitabganj	..	..	..	7	7
Do.	Ramganj	..	..	..	9	6
Do.	Patnitola	..	..	..	8	8
Do.	Sapatar	..	..	..	7	..
Darjeeling	Siliguri	..	..	..	..	6
Do.	Darjeeling	..	..	..	..	7
Do.	Mungpoo	..	..	..	..	6
Do.	Kurseong	..	..	..	..	6
Malda	Chanchal	..	..	..	6	9
Do.	Gazol	..	..	..	..	6
Dacca	Nawabganj	..	..	7	..	..
Faridpur	Madaripur	..	..	..	6	..
Do.	Fatepur	..	..	14	..	..
Do.	Bhanga	..	..	6	..	..
Bakarganj	Patuakhali	..	..	7	6	..
Do.	Pirojpur	..	..	..	6	..
Muzaffarpur	Belsand	..	..	..	5	..
Do.	Muzaffarpur	..	..	..	..	6
Do.	Mahua	..	..	..	..	6
Darbhanga	Samastipur	..	..	5	8	..
Do.	Darbhanga (Laheria Sarai Obsy.)	..	..	..	..	6
Do.	Bahera	..	..	..	..	6
Do.	Khutauna	..	..	..	..	6
Do.	Benipatti	..	..	..	..	7
Do.	Umagaoon	..	..	..	..	7
Do.	Jalay	..	..	..	..	7
Monghyr	Bakhtiarpur	..	..	..	5	5
Purnea	Araria	..	..	..	8	..
Do.	Barsoe	..	..	..	..	7
Do.	Forbesganj	..	..	..	..	11
Do.	Bahadurganj	..	..	..	6	..
Santal Parganas	Hiranpur	..	..	..	5	6

15. Depression of 30th September—2nd October 1937 in the Bay of Bengal and associated deep depression of 3rd to 5th October 1937 in the Arabian Sea.—On the 29th morning generally light variable winds prevailed in the southwest Bay north of latitude 7°N. In the course of the next 24 hours winds from a southerly direction advanced northwards and conditions became markedly unsettled in the southwest Bay on the morning of the 30th. The unsettled conditions intensified by that afternoon into a depression which was centred at 17 hrs near latitude 11°N, longitude 83°E. The depression moved westnorthwestwards and was centred at 8 hrs of the 1st October close to the coast near Cuddalore. It crossed the Coromandal coast by the early morning of the next day and travelled northwestwards across the Peninsula. Continuing to move in a westnorthwesterly direction as a low pressure area it intensified into a deep depression in the east Arabian Sea off Kanara by the morning of the 3rd. During the next 24 hours, it moved westnorthwestwards along the Konkan-Kanara coast. It then recurved northeastwards, crossed the coast between Bombay and Ratnagiri and lay over the north Deccan as a depression by the 5th. Thereafter it rapidly moved northeastwards and by the morning of the 6th was centred near Pendra where it dissipated quickly.

In connection with this depression widespread and locally heavy rain occurred over the Peninsula between the 29th September and 2nd October, rainfall being locally heavy on the last two days. It was responsible for severe floods in Mysore state causing considerable damage to life and property. It also induced heavy rain in Bihar causing floods there.

The following stations recorded heavy rainfall at 8 hrs on the dates mentioned against them :—

District.	Station.	30th Sept.	1st Oct.	2nd Oct.	3rd Oct.
Vizagapatam	Anakapalle	..	..	6	..
Nellore	Kandukur	..	..	6	..
Chittor	Firupati	..	6	..	..
Do.	Chandragiri	..	6	..	..
South Arcot	Vanur	..	8	..	..
Do.	Villupuram	..	6	..	..
Do.	Panruti	..	6	..	..
Do.	Cuddalore	..	6	..	..
I Devikulam Division.	Peermade	..	..	..	7
Travancore II Kottayam Division.	Malayattur	..	..	10	5
Do.	Alwaye	..	..	6	..
Do.	Perumpavar (Kunnamthad).	..	..	8	..
Trivandrum Division.	Pangode	..	6	..	..

District.	Station.	30th Sept.	1st Oct.	2nd Oct.	3rd Oct.
Cochin State	Crangamore	..	..	..	7 ..
Do.	Irinjalakudu	..	..	..	8 ..
Do.	Trichur	..	6	..	.. ..
Malabar	Alattur	..	..	..	6 ..
Do.	Parli	..	..	..	9 ..
Do.	Perintalamna	..	..	..	6 ..
Do.	Menjeri	..	..	..	9 ..
Do.	Vayittin	..	..	..	6 ..
Do.	Cannanore	..	..	..	8 ..
Do.	Tellichery	..	..	..	5 ..
Do.	Badagara	..	..	..	6 ..
Do.	Kuttiyadi	..	..	..	6 ..
Do.	Quilandi	..	..	..	7 ..
Nilgiris	Gudalur	..	..	..	6 ..
Do.	Naduvattam	..	..	..	7 ..
Do.	Glen Morgan	..	..	..	8 ..
Coorg	Bhagamandala	..	..	..	6 ..
Do.	Karike	..	..	..	11 ..
Do.	Pulingoth	..	..	..	6 ..

16. Storm of 11th to 15th October 1937 in the Bay of Bengal.—The isobaric chart of the 9th showed that conditions were becoming unsettled in the Central Bay of Bengal and by the morning of the 10th, a trough of low pressure extended from the Circars coast to Lower Burma. By the next morning a shallow depression was noticed at each end of the trough with central regions near latitude 14½°N, longitude 95½°E and latitude 16°N, longitude 85½°E respectively. The depression on the west central Bay remained practically stationary for a day becoming unimportant by the 13th.

The depression over the Andaman Sea while moving northwestwards was centred at 8 hrs on the 12th about 200 miles to the south of Akyab. Thereafter it moved west-northwestwards and rapidly intensified during the course of the next 24 hours into a cyclonic storm centred by the morning of the 13th near latitude 19°N, longitude 89°E. At 8 hrs of the 13th S. S. Egra experienced ESE wind of force 9 with very high seas near latitude 19°3'N, longitude 89°4' E at 0530 hrs of the day.

It then began to recurve and was centred about 80 miles southeast of Calcutta on the morning of the 14th. The pressure deficiency at the centre at 8 hrs of the 14th must have been at least 0.50". Thereafter the cyclone moved northeastwards and was centred about 50 miles northwest of

Chittagong at 17 hrs of that day. It crossed near Chittagong by the early morning of the 15th and filled up over Assam by the following morning. Observations of a few

ships and stations which were in the storm field and which experienced winds of gale force or more are given in the following table:—

Name of ship or station.	Date.	Hr. of obsn. (I. S. T.)	POSITION.		WIND.		Sea.	Swell.	Remarks.
			Lat. N.	Long. E.	Dir.	For.			
<i>S. S. Egra</i> . . .	13th October 1937.	0530	19°12'	89°30'	ESE	9	Very high .	Heavy .	Heavy squall in last 3 hours, gale.
<i>S. S. Binfield</i> . . .	13th October 1937.	1730	19°30'	88°00'	NNW	8	Rough .	Heavy from N .	Ugly threatening sky.
<i>S. S. Jaladuta</i> . . .	13th October 1937.	1430	19°00'	87°24'	NW	8	Very high .	Do. .	Rainshower.
Do. . . .	13th October 1937.	1630	19°06'	87°30'	NW	8	Do. .	Do. .	Rain, squall, shower.
<i>S. S. Maharaja</i> . . .	13th October 1937.	1930	17°12'	91°18'	W	8	Very rough.	Heavy from SE .	Drizzle in last hour.
Do. . . .	14th October 1937.	0830	18°36'	89°36'	WSW	9	High .	Heavy from W .	Heavy squall in last 3 hours. Gale squally.
<i>S. S. Malakand</i> . . .	13th October 1937.	2230	19°30'	87°30'	NNW	8	Very rough.	Heavy from NE .	Squally.
<i>S. S. Tilawa</i> . . .	13th October 1937.	2230	20°48'	88°48'	NNE	8	Do. .	Heavy from E .	Cont. heavy rain. Squall.
Do. . . .	14th October 1937.	0230	20°30'	88°48'	NW	9	Very high .	Heavy from NW .	Int. thick drizzle. Squali.
Do. . . .	14th October 1937.	0530	19°54'	88°42'	W/N	8	High .	Do. .	Squally. Shower.
<i>S. S. Rajput</i> . . .	13th October 1937.	0230	20°00'	86°48'	ENE	8	Rough .	—	Cont. heavy rain.
Do. . . .	13th October 1937.	2330	20°18'	87°54'	W/N	9	Very rough.	Heavy from NE .	Heavy squall in last 3 hours.
Do. . . .	14th October 1937.	0230	20°18'	88°12'	NW	9	High .	Heavy from E .	Cont. heavy rain.
<i>S. S. Aronda</i> . . .	13th October 1937.	2330	20°34'	88°18'	S/E	9	Do. .	Heavy from S .	Heavy squall in last 3 hours, gale.
Do. . . .	14th October 1937.	0830	20°36'	89°00'	NNW	8	Rough .	Heavy from W .	Squally.
<i>S. S. Singu</i> . . .	14th October 1937.	0830	19°12'	89°48'	W/S	8	High .	—	Squally, shower.
<i>Sandheads</i> . . .	13th October 1937.	1400			NE	8	Rough .	Mod. .	Squally.
	13th October 1937.	2300			NNW	8	Do. .	Do. .	Heavy squalls in last 3 hours.
	14th October 1937.	0000			NNW	9	Very rough.	Do. .	Squally.
		0200			NNW	10	Do. .	Do. .	Heavy squalls.
		0500			NNW	9	Do. .	Do. .	Do.
		0700			NNW	8	Do. .	Do. .	Squally.
		1000			NW	8	Do. .	Do. .	Do.

*L. V. Fame on the Mutlah Station.*

Latitude 20°57', longitude 88°35'.

Date.	Hour. (I. S. T.)	Wind.		Bar.	T.	Remarks.
		Dir.	For.			
13th	02	NE	3	29.74	83	Cloudy.
	04	NE	4	·70	82	Do.
	06	NE	5	·70	82	Do.
	08	NE	6	·70	82	Do.
	10	NE	7	·70	82	Do.
	12	NE	7	·64	82	Squally.
	14	NE	7	·64	82	Do.
	16	NE	8	·58	82	Do.
	18	NE	8	·58	81	Thunder.
	20	NE	8	·58	81	Do.
	22	NE	8	·58	81	Lightning.
	24	NE	9	·50	80	
14th	02	NE	9	·40	80	Rain.
	04	NE	9	·36	81	Do.
	06	NE	9	·30	82	Do.
	08	NE	9	·35	82	Do.
	10	NE	9	·38	82	Squally.
	12	NE	9	·38	82	
	14	NW	9	·40	82	
	16	NW	8	·48	82	Rain.
	18	NW	8	·48	82	Do.
	20	N	7	·52	82	Do.
	22	NE	6	·55	82	Do.
	24	NE	6	·58	82	Do.

*L. V. Meteor on the Eastern Channel Station.*

Date.	Hour. (I. S. T.)	Wind.		Bar.	T.	Remarks.
		Dir.	For.			
13th	02	NNE	3—4	29.86	87	Overcast.
	04	NNE	3—4	·83	87	Do.
	06	E	4—5	·85	85	Do.
	08	ENE	5—6	·86	85	Do.
	10	ENE	5—6	·87	85	Do.
	12	E	6—7	·80	85	Do.
	14	E	6—7	·72	84	Do.
	16	E	6—7	·66	84	Do.
	18	E	6—7	·68	83	Do.
	20	ENE	6—7	·72	84	Do.
	22	ENE	6—7	·67	84	Do.
	24	NE	6—7	·55	83	Do.
	02	NNE	6—7	·50	84	Do.
	04	NNW	6—7	·48	84	Do.
	06	NNW	7—8	·47	83	Do.
	08	N	7—8	·51	83	Do.
	10	N	6—7	·69	82	Do.
	12	NNW	6—7	·65	82	Do.
	14	NW	6—7	·67	82	Do.
	16	NW	6—7	·68	82	Do.
	18	NW	5—6	·72	82	Do.
	20	NW	4—5	·80	82	Do.
	22	NW	4—5	·83	82	Do.
	24	NW	4—5	·79	82	Do.

Widespread and locally heavy rain fell in south Bengal between the 13th and the 15th in connection with the storm and caused floods in the town of Noakhali and the suburbs. According to newspaper reports many houses were destroyed resulting in the loss of some human lives, trees uprooted, telegraph and telephone post brought down and the electric supply cut off.

Some of the falls of 5" and over recorded on different days during the period of the activity of the storm are given below :—

District.	Station.	14th.	15th.	16th.
		"	"	"
24 Parganas . .	Saugor Island . .	5	...	...
Ditto . .	Budge Budge . .	5	...	...
Khulna . .	Mullahat . .	...	5	...
Dacca . .	Munshiganj . .	...	5	...

District.	Station.	14th.	15th.	16th.
Bakarganj . .	Patuakhali . .	...	10	...
Ditto . .	Barisal . .	...	8	...
Cachar (North Cachar hills).	Haflong . .	...	...	6
Ditto . .	Jatinga Valley . .	...	...	5
Ditto . .	Harangajao . .	...	...	6

17. Deep depression of 13th to 16th November 1937 in the Bay of Bengal.—A slight fall of pressure was noticed in the south Bay and the Andaman Seas on the 12th afternoon. During the course of next 15 hours pressure fell further in the southwest Bay where conditions became markedly unsettled and a cyclonic circulation established itself as will appear from the following observations :—

Name of ship.	Date.	Hr. of obsn. (I. S. T.)	POSITION.		WIND.		Sea.	Swell.	Weather remarks.
			Lat. N.	Long. E.	Dir.	For.			
S. S. Warora . .	13th November 1937.	0830	10°06'	82°24'	NE	1	Slight .	Low (NE)	
S. S. Gamaria . .	13th November 1937.	0830	06°30'	81°54'	WNW	2	Do. .	Low (N)	
S. S. Conterverde . .	13th November 1937.	0830	05°48'	83°12'	W	3	Rough .	Mod (SW)	
S. S. Kemmendine . .	13th November 1937.	1130	08°48'	85°24'	ESE	5	...	Low (NE)	

The unsettled condition developed into a depression with centre at 17 hrs on the 13th near latitude 9½°N and longitude 82°E.

The depression moved northwestwards and at 8 hrs of the 14th was centred about 130 miles to the east-south-east of Negapatam. Continuing to move northwestwards it intensified into a deep depression at 8 hrs of the 15th with centre about 80 miles to the east of Negapatam. Thereafter it weakened while passing inland across Coromandal coast by the morning of the next day and travelled westwards across the Peninsula as a trough of low pressure.

In connection with this depression fairly widespread rain occurred in the south Peninsula between the 13th and the

17th, rainfall being locally heavy from the 13th to 15th. Some of the noteworthy falls are given below :—

District.	Station.	13th.	14th.	15th.	16th.
Nellore . .	Gudur . . .	...	7	...	...
	Sulurpet . . .	...	...	...	8
	Tada . . .	...	...	5	7
Chingleput . .	Attipet . . .	5	...	7	...
	Sathiavedi . . .	6	6	6	...

District.	Station.	13th.	14th.	15th.	16th.
Chingleput .	Conjeeveram .	..	5	7	..
	Saidapet .	..	..	7	..
	Cheyyur .	8	6	..	..
Chittoor .	Madurantakam .	5	6	..	..
	Tiruttani .	..	5	6	..
	Puttur .	..	..	6	..
North Arcot .	Vellore .	..	..	8	..
	Arni .	..	..	7	..
	Polur .	..	..	6	..
	Wandiwash .	..	7	6	..
	Wallajah .	..	..	6	..
	Gudiyattam .	..	..	6	..
South Arcot .	Gingee .	..	..	9	..
	Tindivanam .	5	8	..	..
	Vanur .	7	10	..	..
	Villupuram .	..	7	..	..
	Panruti .	..	8	..	..
	Cuddalore .	9	7	..	..
	Porto Novo .	6	8	..	..
	Chidambaram .	5	7	..	..
	Mannargudi .	..	7	..	..
	Srimushnam .	..	6	..	..
	Tittagudi .	..	..	8	..
	Ulundurpet .	..	6	..	..
Tanjore .	Tirukkoyilur .	..	5	6	..
	Shiyali .	8	5	..	..
	Mayavaram .	6	8	..	..
Trichinopoly .	Jayankondan .	..	8	..	..
Ramnad .	Tiruppattur .	..	6	..	..

18. Deep depression of 29th November to 2nd December 1937 in the Bay of Bengal.—On the morning of the 28th November, an appreciable fall of pressure was noticed in the southwest Bay particularly to the east of Ceylon, and a depression formed by the next morning with the centre near latitude  $10^{\circ}\text{N}$ , longitude  $84\frac{1}{2}^{\circ}\text{E}$ . The upper winds at Port Blair backed simultaneously with the formation of the depression from southwest to southeast strengthening generally at the same time till force 12 was recorded at 2 km level. The depression slowly moved northeastwards and was centred near latitude  $12\frac{1}{2}^{\circ}\text{N}$ , longitude  $86^{\circ}\text{E}$  at 8 hrs of the 30th. By 2 hrs of the 1st, it deepened and then

moving in a northerly direction was centered at 8 hrs of the same day near latitude  $19^{\circ}\text{N}$ , longitude  $89^{\circ}\text{E}$ . Thereafter the deep depression moved in a northeasterly direction, weakening into a trough of low pressure off the Chittagong Arakan coast by the following morning and subsequently became unimportant. The depression was responsible for widespread rain in Burma and the Chittagong district on the 1st and 2nd December, with a record fall of 15" at Cox's Bazar on the 1st.

19. *Storm of 26th to 29th December 1937 in the Bay of Bengal.*—Sabang recorded 4" of rain on the morning of the 25th and signs of strengthening of the northeast monsoon in the southeast Bay were noticeable. During the next 24 hours pressure fell appreciably around the Andaman Islands and a deep depression formed on the 26th with centre at 8 hrs near latitude  $11^{\circ}\text{N}$ , longitude  $94^{\circ}\text{E}$ . The deep depression remained practically stationary as it intensified into a storm of small extent by the early morning hours of the 27th, and then moving northeastwards was centred at 8 hrs of the same day near latitude  $12^{\circ}\text{N}$ , longitude  $94\frac{1}{2}^{\circ}\text{E}$ . By this time the upper winds at Port Blair and Victoria Point had strengthened considerably and a general cyclonic circulation was established up to the 3 km level. The highest pressure defect near the centre was of the order of 0.4". Continuing to move northeastwards the storm weakened into a depression over the Gulf of Martaban by the morning of the 28th and was centred at 11 hrs about 70 miles west of Moulmein. It weakened further and became unimportant by the same afternoon. The storm caused widespread rain with locally heavy falls in lower Burma on the 26th and 27th. Port Blair reported a record fall of 12" on the 26th. Some of the falls of 5" and above are given below :—

District.	Station.	26th.	27th.
Rangoon .	Rangoon Victoria Lake .	..	5
Insein .	Hmawbi .	..	5
	Hlegu .	..	6
	Mingaladon .	5	..
Hanthawaddy .	Kungyangon .	5	..
Pyapon .	Pyapon .	..	5
	De daye .	..	5
	Kyaiklut .	..	6
	Bogale .	..	5

## WESTERN DISTURBANCES.

The following is a list of the western disturbances which affected the weather in northern India during the year with the dates on which they did so and brief notes on the precipitation that they produced :—

Serial No.	Date.	Remarks.
<i>January.</i>		
1	2—5 . . .	Fairly widespread duststorms in Baluchistan on the 2nd, local rain or snow in Kashmir and the east and north Punjab on the 3rd and 4th and nearly general thunder-rain in the United Provinces hills with a few falls in Kashmir and the Punjab hills on the 5th.
2	7—9 . . .	Local falls of rain or snow in Kashmir on the 8th and 9th and a few falls in Baluchistan on the 7th and 8th and in the Punjab hills and the North-West Frontier Province on the 8th.
3	11—12 . . .	Scattered showers of rain or snow in the North-West Frontier Province, Kashmir, the east and north Punjab and the west United Provinces on the 11th and 12th.
4	13—15 . . .	No precipitation.
5	17—19 . . .	Local falls of rain or snow along the northwest frontier, in Kashmir and in and near the north Punjab hills on the 17th and 18th.
6	20—21 . . .	Local falls of rain or snow in Baluchistan with scattered showers in the west Punjab and Kashmir on the 21st and local falls of rain or snow in Kashmir on the next day.
7	22—25 . . .	A few light showers of rain or snow in Kashmir between the 23rd and 25th.
8	26—30 . . .	A few falls of rain in Baluchistan on the 25th and 26th and in the North-West Frontier Province on the latter date, widespread rain or snow along the northwest frontier, in Kashmir and north Punjab hills on the 27th and 28th and fairly widespread rain or snow in Kashmir with a few light falls in the North-West Frontier Province and in and near the Punjab hills on the next day.
9	30th January to 1st February.	Fairly widespread thundershowers on the 31st and a few light showers on the 1st February in the west Central Provinces and east Central India.
<i>February.</i>		
10	2—4 . . .	Scattered dust or thunderstorms in Baluchistan on the 2nd, 3rd and 4th.
11	6—8 . . .	Fairly widespread precipitation over the northwest frontier, Kashmir and the east and north Punjab with scattered showers in the southwest Punjab, Sind and Rajputana on the 8th and 9th.
12	8—13 . . .	Fairly widespread and occasionally heavy rain in northwest India up to the 12th. Fairly widespread thundershowers in the United Provinces and northeast India on the 11th and 12th.

Serial No.	Date.	Remarks.
<i>February—contd.</i>		
13	19—22 . . .	Widespread rainfall along the northwest frontier on the 19th and 20th, in Kashmir, the Punjab, the United Provinces, east Central India, the Central Provinces and Chota Nagpur on the 20th and 21st, in Orissa, Bengal and Bihar on the 21st and 22nd and in Assam on the latter date.
14	22—27 . . .	Fairly widespread precipitation along and near the northwest frontier, in Kashmir and the Punjab between the 23rd and 27th and over the region from the United Provinces to Bengal on the 26th.
15	27—28 . . .	Local precipitation in and near the Punjab-Kumaon hills with scattered showers in the North-West Frontier Province on the 27th.
<i>March.</i>		
16	1—5 . . .	Fairly widespread precipitation in the northwest frontier, the north Punjab and Kashmir on the first two days and scattered thundershowers in the western Himalayas on the 3rd and 4th and in Bengal and Assam on the 4th and 5th.
17	5—9 . . .	Fairly widespread precipitation in the northwest frontier, the north Punjab and Kashmir between the 6th and 8th.
18	11—15 . . .	Scattered showers in Baluchistan, the Punjab and Kashmir between the 11th and 14th and in Chota Nagpur, Bengal and Assam between the 13th and 15th.
19	16—18 . . .	Local showers in Kashmir from the 16th to 18th.
20	18—21 . . .	A few thundershowers in Assam on the 18th and 19th.
21	20—24 } . . .	Fairly widespread precipitation in the northwest frontier, the Punjab, Kashmir and the United Provinces hills between the 20th and 23rd and scattered showers in west Rajputana on the 22nd.
22	21—24 } . . .	Scattered thundershowers in the northwest frontier and the Punjab between the 25th and 29th with extension in Baluchistan on the last two days; fairly widespread thunderstorms in the Central Provinces and scattered thundershowers in northeast India during the last week of the month.
<i>April.</i>		
24	1—4 . . .	Fairly widespread thundershowers in Baluchistan, the North-West Frontier Province, the Punjab, Kashmir, Rajputana and the west United Provinces between the 1st and 4th and local thundershowers in the east United Provinces, east Central India and northeast India on the 4th.
25	6—8 . . .	Scattered dust or thunderstorms in the northwest frontier on the 6th and scattered thundershowers along the western Himalayas on the 7th and 8th.
26	8—10 . . .	Scattered thunderstorms in Baluchistan, the North-West Frontier Province, Kashmir, the Punjab, the west United Provinces and Rajputana between the 8th and 10th.

Serial No.	Date.	Remarks.	Serial No.	Date.	Remarks.
<i>April—contd.</i>					
27	11—14	Scattered thunderstorms in the North-West Frontier Province, the north Punjab hills and Kashmir between the 11th and 13th.	45	3—4	Scattered thunderstorms in the western Himalayas on the 3rd and 4th.
28	14—18	Fairly widespread thunderstorms with locally heavy rain and hail in the North-West Frontier Province, the north Punjab and the western Himalayas between the 14th and 18th.	46	5—8	Scattered dust or thunderstorms in Baluchistan, Sind, Rajputana, the Punjab and Kashmir from the 5th to 8th.
29			47	10—12	Fairly widespread dust or thunder-storms on the 9th and 10th and local dust or thunderstorms between the 11th and 13th in Kashmir and the Punjab with occasional isolated dust or thunder-storms in the rest of northwest India.
30					
31	22—26	Scattered dust or thunderstorms in the North-West Frontier Province and local thundershowers along the western Himalayas between the 22nd and 26th.			
32	26—30	A few thundershowers in Sind on the 28th and local thundershowers in the Bengal hills and Assam on the 29th and 30th.			
33	29—30	A few dust or thunderstorms in the North-West Frontier Province, Kashmir, the Punjab and Sind on the 29th and 30th.			
<i>May.</i>					
34	3—5	Scattered duststorms or showers in Baluchistan and Kashmir on the 4th.	48	5—9	A few duststorms or thunder-rain in the northwest frontier, the north Punjab and Kashmir between the 6th and 9th.
35	5—8	Scattered dust or thunderstorms in the northwest frontier, Sind, the north Punjab and Kashmir on the 5th.	49	10—12	A few thunderstorms and rain in the North-West Frontier Province, the Punjab and the United Provinces hills from the 10th to 12th.
36	7—9	Local thunderstorms or rain along and near the western Himalayas and in Rajputana between the 6th and 9th.	50	13—17	A few dust or thunderstorms on the 13th, 14th and 17th and widespread dust or thunderstorms on the 15th and 16th in and along the northwest frontier and western Himalayas.
37	9—11	Local thunderstorms in east Rajputana, west Central India between the 9th and 11th and local dust or thunderstorms in the northwest frontier, the Punjab and Kashmir on the 10th.	51	17—21	Scattered dust or thunderstorms in Baluchistan on the 19th and fairly widespread thunder-rain in the western Himalayas on the 20th and 21st.
38	11—13	Local thunderstorms or drizzle in Baluchistan on the 11th and 12th and scattered thunderstorms in Kashmir on the 13th.	52	21—24	Scattered dust or thunderstorms in Sind and the North-West Frontier Province from the 20th to 22nd and widespread thunderstorms in and near the western Himalayas from the 21st to 23rd.
39	13—17	Local dust or thunderstorms in the northwest frontier, Sind, the Punjab, Kashmir, Rajputana and the west United Provinces between the 13th and 16th.	53	23—24	A few thundershowers in Baluchistan on the 23rd and in the Punjab and Kashmir on the 24th and 25th.
40	16—20	Local dust or thunderstorms in Baluchistan and Rajputana on the 16th and in Kashmir, the Punjab and the United Provinces from the 16th to 20th.	54	25—27	A few thundershowers in Baluchistan on the 25th and local thunderstorms in the North-West Frontier Province, the Punjab and Kashmir on the 26th.
41	21—23	Scattered thunderstorms in Kashmir on the 21st and local thunderstorms or drizzles in the North-West Frontier Province, the north Punjab and Kashmir on the 22nd.	55	27—29	Local thunderstorms along the western Himalayas from the 27th to 29th.
42	23—24	Local dust or thunderstorms in the northwest frontier, Kashmir, the Punjab and the United Provinces on the 23rd and 24th.	56	1—3	Widespread thunder-rain in the North-West Frontier Province, and in and near western Himalayas on the 1st, a few thunderstorms and rain in the North-West Frontier Province and Kashmir on the 2nd, local thundershowers in Kashmir and the United Provinces hills and a few thundershowers in the southwest Punjab on the 3rd.
43	24—26	Local dust or thunderstorms in the northwest frontier, Sind, Rajputana and the western Himalayas between the 24th and 26th.	57	5—6	Local thunderstorms and rain in the North West Frontier Province and the Punjab hills on the 6th.
44	26—30	A few thunderstorms or rain in Baluchistan, the North-West Frontier Province, the north Punjab, Kashmir, the west United Provinces and Rajputana between the 26th and 30th.			

Serial No.	Date.	Remarks.	Serial No.	Date.	Remarks.
		<i>September—contd.</i>			<i>December.</i>
58	6—8	Local thunderstorms and rain in the North-West Frontier Province and the east Punjab on the 7th.	72	3—6	Local showers in the extreme north on the 4th and local rain or snow in Kashmir and a few showers in the north Punjab and the North-West Frontier Province on the 5th.
59	21—23	A few thundershowers in the North-West Frontier Province and Kashmir on the 21st and in the extreme north on the 23rd and local thunder-rain in the North-West Frontier Province and Kashmir on the 22nd.	73	6—9	Local rain or snow in west Rajputana, the Punjab and Kashmir on the 7th and a few light showers in the Punjab hills on the 8th.
		<i>October.</i>	74	9—10	No precipitation.
60	1—3	Local thunderstorms in Gujarat, Sind and Rajputana on the 1st and 2nd and in and near the western Himalayas from the 1st to 3rd.	75	13—22	Fairly widespread thundershowers or snow in south Baluchistan, Sind and north Gujarat to the western Himalayas from the 16th to 20th and in Kashmir, the Punjab and the United Provinces on the 21st.
61	5—10	Scattered thunderstorms in Kashmir on the 5th, scattered or local thunderstorms in the North-West Frontier Province from the 8th to 10th and local thunderstorms in the Punjab and Kashmir on the 8th and widespread dust or thunderstorms on the 9th.	76	21—23	A few falls of rain or snow in Kashmir.
62	10—14	Scattered showers in Baluchistan on the 10th and 11th and in Kashmir from the 12th to 14th and local thunderstorms in the Punjab and the North-West Frontier Province from the 11th to 13th.	77	23—24	A few falls of rain in the Punjab hills on the 23rd.
63	20—21	Isolated showers in Baluchistan on the 21st.	78	26—29	Isolated showers in the North-West Frontier Province on the 27th and a few falls in Kashmir and the Punjab hills on the 28th.
64	24—28	Fairly widespread duststorms and thundershowers in the Punjab, Kashmir and the North-West Frontier Province from the 24th to 28th and local showers in and near the United Provinces hills on the 27th and 28th.	79	29	Widespread rain in Sind and Baluchistan on the 29th, Baluchistan and Sind to the western Himalayas and in west Central India on the 30th and in and near the Western Himalayas with locally heavy falls on the 31st; scattered showers or falls in the North-West Frontier Province, Kashmir and the Punjab hills on the 29th, in Gujarat and the adjoining parts of the west Central Provinces and the north Bombay Deccan on the 30th and in east Rajputana, the North-West Frontier Province, Baluchistan and west Central India on the 31st.
65	30th October to 3rd November.	Isolated showers in the Punjab hills on the 30th and 31st.			
		<i>November.</i>			
66	3—5	No precipitation.			
67	6—10	A few light falls of rain or snow in the North-West Frontier Province and Kashmir on the 7th and 8th.			
68	12—15	No precipitation.			
69	15—17	Scattered drizzles in the extreme north on the 16th.			
70	17—20	Scattered drizzles in Baluchistan on the 17th and 18th and in Sind and the south-west Punjab on the 18th, local drizzles or rain in the east and north Punjab and in and near the United Provinces hills on the 19th and scattered light rain or snow in Kashmir on the 19th and 20th.			
71	23—26	A few light falls of rain or snow in Kashmir and the North-West Frontier Province on the 23rd, a few showers or drizzles in Baluchistan and the north Punjab on the 24th and local rain or snow in Kashmir on the 24th and 25th.			

#### LOCAL STORMS.

Of the local storms reported in newspapers, the following are noteworthy :—

*February 8th.*—A severe hailstorm passed over Cawnpore and Ghatampur tehsils. Crops and thatched houses were damaged and several heads of cattle killed.

*February 14th.*—A severe hailstorm accompanied by heavy rain passed over Bareilly and the adjoining districts. Crops were damaged, a number of trees uprooted, roofs of some of the thatched houses blown off and some cattle killed.

*February 17th.*—A thunderstorm of severe intensity swept over Bharaligaon, Charingiyagaon, Lukharakhon and other villages in Sibsagar District. A large number of kuchcha houses were blown down and several people injured.

*February 22nd.*—A violent thunderstorm accompanied by heavy rain, passed over Abaderhat, Agardari, Madhabkati, Bausghata and many other villages in Satkhira (Bengal). Many thatched houses were blown away and trees uprooted. A woman is reported to have lost her life due to the collapse of a mud wall.

*March 22nd.*—Crops and several villagers' huts suffered considerable damage in Sukkur during a severe hailstorm.

*April 3rd.*—A violent gale blew over Chaumuhani (Noakhali) and the neighbouring villages, causing extensive damage to houses and property. One man was reported to have been killed by the upturning of a cart and many were injured by the falling of corrugated iron sheets.

*April 4th.*—A severe thunderstorm accompanied by heavy rain and hailstones, some of them as big as eggs, passed over Mirzapur causing considerable damage to crops. The electric lines were disturbed and the city was plunged into darkness for a considerable time.

Four persons working in a field five miles away from Secunderabad were struck by lightning and killed when a thunderstorm accompanied with a heavy rain passed over that place.

*April 5th.*—One person was killed and 4 others injured when two roadside stalls collapsed during a severe thunderstorm which passed over Chittagong. The stalls gave way when a huge tree was uprooted and fell on them. The gale was so great that electric and telephone wires snapped at several places.

*April 6th.*—Two girls were killed and a man rendered unconscious by lightning during a thunderstorm which passed over Daltonganj.

During a thunderstorm at Kadamtola in Dhubri a boatman was struck by lightning and killed, while another became unconscious.

*April 25th.*—The building of the Pakundia High Madrasah in the District of Mymensingh was blown away by a severe gale. The mosque attached to the Madrasah was also brought down.

In a thunderstorm which occurred during the night a Hrjan couple and a cart driver were killed by lightning on the Pudukottah Road near Tanjore. In many places trees were uprooted.

*April 27th.*—A severe storm passed over the Bankura District in the evening. About 50 houses in Nadiapur village were reported to have been blown down.

*May 3rd.*—20 wagons, one four-wheel brake van and one empty composite bogie of No. 273-UP (mixed) train were blown off the rails and capsized at mile 128-16 between Dagi and Dharmakura in east Bengal at about 9 o'clock at night during a severe nor'wester.

A thunderstorm caused much damage in the town and neighbouring villages of Nowgong blowing away roofs of several houses and uprooting big trees. One woman lost her life. Many people were rendered homeless.

*May 5th.*—Several districts in Bengal and Assam experienced severe thunderstorm. Almost everywhere considerable damage was caused to property while in Bhirbhumi two women were reported to have been killed by the collapse of a mud wall.

*May 7th.*—Trees were uprooted, electric posts and wires damaged and some corrugated iron roofs blown away as a

result of a severe storm that passed over Chittagong. It was reported that several persons were drowned when some country boats and " sampans " capsized during the thunderstorm.

*May 8th.*—A boat with 10 passengers was suddenly overtaken by a strong gale and capsized in mid stream near Goalkhali (east Bengal). The passengers and boatman were reported to be missing.

*May 12th.*—Two grass-cutters were killed by lightning during a severe thunderstorm which passed over Bareilly in the night. The storm also caused dislocation of the telephone and electric services.

*May 16th.*—The western parts of Mymensingh district experienced a severe nor'wester in the evening. The Jhinai bridge of the Eastern Bengal Railway was rendered unfit for the passing of trains, and passengers had to be transhipped. All telegraph lines connected with the western parts of the district went out of order.

At Jamalpur the storm caused extensive damage and reports from the interior showed that at Kendua-Kalibari several jute godowns and sheds were blown off. Considerable damage to jute godown was also reported from Sarishabari.

*May 17th.*—A boat carrying 36 passengers was caught in a squall and capsized in the river Hooghly about half a mile from the Diamond harbour. Four persons lost their lives.

*May 18th.*—During a nor'wester which passed over Meherpur in Nadia district one woman and a boy were crushed to death under a falling tree. Telegraph posts in the western parts of the Meherpur sub-division were uprooted and thatched houses were razed to the ground, injuring several persons.

*May 19th.*—During a severe thunderstorm which passed over the village of Panchtikri in Mymensingh district, lightning struck the village school and a teacher and three children were killed while several boys were rendered unconscious by the shock.

While on a pleasure trip on the river Gora in Kushtia in Nadia district a man was drowned, his boat capsizing in mid-stream during a violent squall.

A severe thunderstorm accompanied by rain and hail passed over Raya (Bombay, Borada and Central India Railway) uprooting several telegraph poles and a large number of trees and tearing off thatched roofs. Trains were delayed due to dislocation of telegraph and telephone communications. The Raya Muttra road was blocked for some time.

*May 20th.*—Momentarily reaching a velocity of 67 miles an hour, a nor'wester which broke over Calcutta at about 5 o'clock in the evening resulted in considerable damage to property and injuries to a number of persons. In Chitpore Road, near the Baghbazar tramway terminus, a buffalo cart driver and two buffaloes were electrocuted and killed. Telephone and tram services were dislocated all over Calcutta and several big trees were uprooted blocking the roads. Three cargo boats sank in the River Hoogly.

*May 21st.*—Severe damage to crops, orchards, wild life, as well as buildings was caused over a wide area in Kangra district as the result of a 80 miles an hour gale accompanied by hailstorm. Three persons sheltering in a house were struck by lightning and killed and three others were injured.

*May 26th.*—A nor'wester accompanied by heavy down-pour passed over Brahmanbaria (east Bengal) and its suburbs. The storm raged for about an hour. News of several casualties as the result of the severe gale were reported from village Choonta.

*May 27th.*—20 persons were killed and about 50 injured of whom seven seriously, at Jageshwar, 17 miles from Almora as the result of a severe hailstorm that swept over the place. A large number of people had collected at Jageshwar where the annual fair was held. When the severe hailstorm raged, panic-stricken people rushed into the ssrai for shelter. Suddenly a huge oak tree fell over it crushing the inmates,

*June 1st.*—A severe thunderstorm swept over the interior of the Purulia district. Four persons were killed by lightning and another was severely injured.

*June 2nd.*—In consequence of a violent thunderstorm which passed over Dubri in the evening, the Government circuit house and the match factory suffered considerable damage. Four wagons at the railway station were blown off the line and a train was derailed at Gauripur. No loss of life was however reported.

*June 3rd.*—Three people died and sixteen were injured during a severe thunderstorm which swept over Ahmedabad at night.

*June 7th.*—During a thunderstorm which swept over Bankura in the evening three boys were killed by lightning in the Municipal area and three others met with the same fate in the interior of a neighbouring village.

*June 8th.*—A nor'wester passed over a dozen villages in the interior of Mymensingh district. Many big trees were uprooted and numerous houses were levelled to the ground.

Three men were killed and many injured in a severe thunderstorm which swept Dehra Dun at night, creating havoc in the valley. Electric wires snapped and the town was plunged in darkness. Hundreds of trees were uprooted.

*June 13th.*—In the village of Guatalia in Chittagong a Brahmin priest while grazing his cows was struck by lightning and killed together with two cows. All were reported to have remained standing even after death.

*June 25th.*—Three persons including a woman and a child were seriously injured and the roofs of a number of houses were blown away during a severe duststorm that swept over Bholsa near Jubbulpore. The gale was followed by hail-storm and heavy rain. The telegraph and electric wires were dislocated at several places.

*June 26th.*—Extensive damage to property was caused by a thunderstorm which swept over the town of Bankura at night. Newly erected electric posts as well as many big trees were uprooted, while several birds were killed.

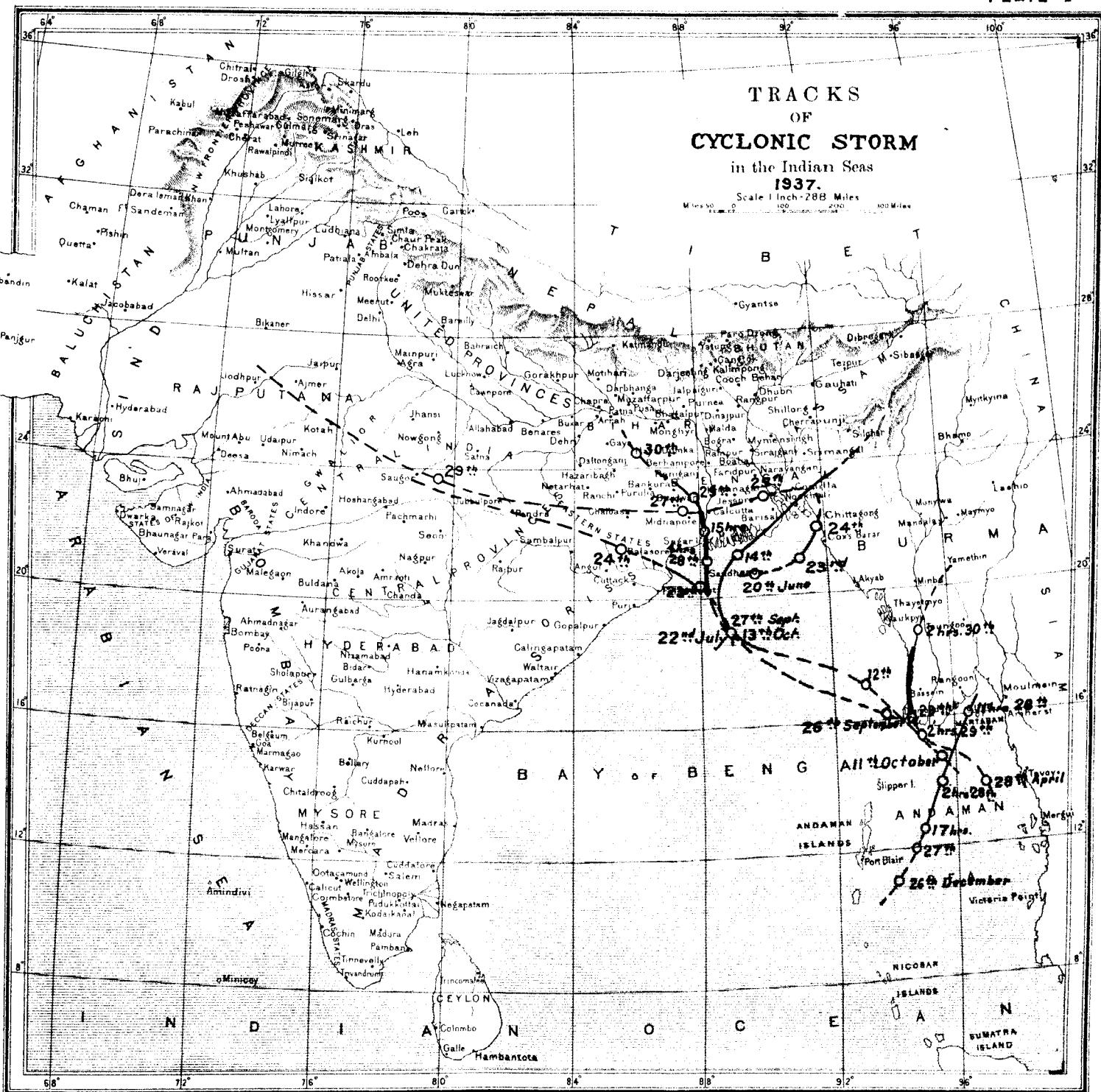
*October 29th.*—A severe hailstorm damaged the paddy and sugarcane crops and newly sown rabi seeds in a number of villages in the tehsil of Lalganj in the United Provinces.

*November 11th.*—2 men and a woman were killed by lightning during a thunderstorm at Jhansi.

#### WINDS OF FORCE NINE OR MORE IN INDIAN SEAS.

Excluding dates of storms and depressions, a description of which has been given above, winds of force nine or more were recorded on ships in the Indian Seas during the year 1937 on the following occasions :—

Date.	Name of Ship.	APPROXIMATE POSITION.	
		Lat. N.	Long. E.
30th June .	<i>S. S. City of Venice</i> .	° 16	61
1st July .	<i>S. S. City of Cornwith</i> .	11	58
6th November .	<i>S. S. City of Leicester</i> .	16	62
9th November .	<i>S. S. City of Agra</i> .	14	52



REG. NO. 1454 E'37. 1,500-1,100'38.

ENGRAVED HELIO. S. I. O. CALCUTTA.

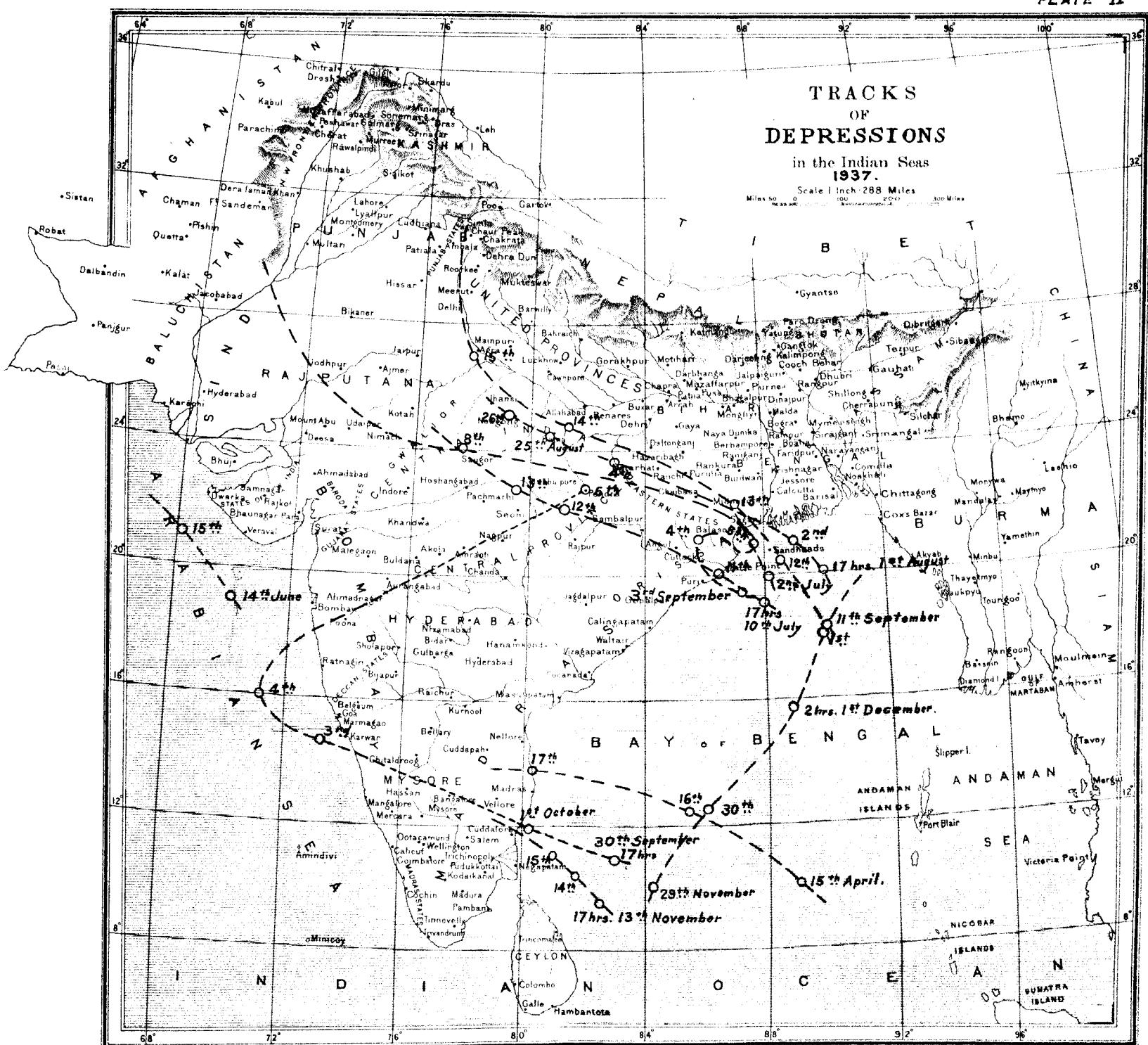
**— — — — Depression****— Storm****— — Severe storm**

TRACKS  
OF  
DEPRESSIONS

in the Indian Seas  
1937.

Scale 1 Inch = 288 Miles

Miles to  
Scale 1 Inch = 288 Miles



# INDIA WEATHER REVIEW, 1937.

## ANNUAL SUMMARY.

### PART D.

### SEISMIC RECORDS.

#### STATION—UPPER AIR OBSERVATORY, AGRA.

*Lat. 27° 8' 15" N. Long. 78° 0' 45" E. Height above M. S. L. 163 metres.*

*Lithologic Foundation:—Indo-Gangetic Alluvium.*

*Instruments:—Omori-Ewing Seismograph North-South (N) component, and Milne-Shaw Seismograph East-West (E) component, both installed in an underground room.*

#### INSTRUMENTAL CONSTANTS.

Component	Steady mass (Kg.)	T (sec.)	V <sub>m</sub>	$\epsilon$	Paper speed (mm./min.)	Periods for which the constants apply.
N	45	31	29	1	12	Jan. to Sept.
	45	32	27	1	12	Oct. to 9th Nov.
	45	31.5	29	1	12	10th Nov. to 3rd Dec.
	45	45	29	1	12	4th to 6th Dec.
	45	..	..	1	12	7th Dec. to 11th Dec.
	45	29.5	29	1	12	12th Dec. to 31st Dec.
E	0.47	12	250	20:1	8	Jan. to Dec.

TABLE D<sub>1</sub>.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937. Jan. 4	E	H. M. S.	Sec.	μ	Km.			1937. Jan. 5	E	e	17 3 18	...	...		Km.
		eP (?)	22 58 06	...	(7,145)		Surface waves poor.			F	17 ...	...	...		Tremors.
		eS	23 6 49	...	...					eP	21 46 34	...	...	5,180	△ from (S-H) Epc: 31°N., 132°E. Off South Japan.
	PS	7 39	...	...	...				E	PR <sub>1</sub>	48 10	...	...		
										ePR <sub>1</sub>	49 9	...	...		
										IS	53 22	...	...		
, 5	E	e (P)	0 5 18	...	(6,835)		Surface waves poor.		E	SR <sub>1</sub>	56 19	...	...		
		IS	18 54	...	...		E c: 4°S., 135°E. Northwest New Guinea.			SR <sub>2</sub>	57 30	...	...		
		PS	14 26	...	...					L(?)	22 0 34	...	...		
	E	iP	4 56 57	...	...	6,945	Surface waves poor.		E	P	6 21 23	...	...	5,780	Epc: 35.8°N., 141° E. Japan.
		ePR <sub>1</sub>	50 24	...	...	...	Epc: Near North West New Guinea.			PR <sub>1</sub>	23 23	...	...		
		IS	5 5 31	...	...	...				ePR <sub>2</sub>	24 21	...	...		
" 5	E	PS	6 5	...	...	...			E	S	28 51	...	...		
		F	6 12 ...	...	...	...				PS	29 28	...	...		
										eSR <sub>1</sub>	32 32	...	...		
	E	e	11 19 51	...	...	...	Surface waves poor.		E	SR <sub>2</sub>	34 2	...	...		
		S	24 31	...	...	...	Epc: North Liu Kiu Islands (Chufeng).			Mn	46 0	17	17		
		i	26 34	...	...	...									
		F	12 11 ...	...	...	...									

TABLE D<sub>1</sub>—*contd.*

Date.	Compt.	Phase.	G. M.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
			H. M. S.	Sec.	μ	Km.					H. M. S.	Sec.	μ	Km.		
1937.								1937.								
Jan. 7	E	i	12 6	...	...	...		Feb. 12	N,E	P	5 37 47	...	2,165	Epc : Gobi desert.		
		F	11 ...	...	...	...			N,E	S	41 26	...	...	...		
,, 7	N,E	IP	13 24 54	...	2,055	Shock of very great intensity. Epc : 35°N., 96°5' E. In China.	35°5' N., 97°5' E. (U.S.C.G.S.). 36°1' N., 98°6' E. (J. S. A.) O : 13h 20m. 42s.	,	E	SR <sub>1</sub> (?)	42 10	...	...	...		
	N,E	PR <sub>1</sub>	25 13	...	...	...			E	M(?)	44 53	...	...	...		
	N,E	iS	28 24	...	...	...		,	E	eP	9 25 22	...	6,480	Epc : 45°N., 151°E. (Chifeng).		
	N	L(?)	29 33	...	...	...			eS	33 30	...	...	...			
,, 7	E	P	17 49 37	...	2,110	Probably an aftershock of 7d 18h.		,	eSR <sub>1</sub>	37 27	...	...	...			
		PR <sub>1</sub>	49 53	...	...	...			Mn	52 28	20	9	...			
		iS	53 11	...	...	...		,	F	10 53	...	...	...			
		eSR <sub>1</sub>	53 50	...	...	...								Tremors.		
		F	18 34 ...	...	...	...		,	E	i	15 35 54	...	...	...		
,, 12	E	i	5 47 21	...	...	Near. Slight.			F	41	...	...	...			
		e	48 37	...	...	...		,	E	e	4 21 30	...	...	...	Slight. Near.	
		F	6 16 ...	...	...				i	22 3	...	...	...			
,, 16	E	i	13 23 38	...	...	Felt at Shillong, Tazpur, Saloma Gauhati and Naya Dumka.		,	F	29	...	...	...			
		F	33 ...	...	...			,	N,E	P	7 12 36	...	6,310	Shock of great intensity. Epc : 45°2'N., 148°6' E. (J.S.A.).		
,, 16	E	i	19 23 13	...	...				E	PR <sub>1</sub>	14 51	...	...			
		F	41 ...	...	...				E	PR <sub>2</sub>	15 50	...	...			
,, 22	E	e	4 38 26	...	...	Feeble.			N,E	S	20 34	...	...			
		e	47 37	...	...	...			N,E	PS	21 3	...	...			
,, 23	E	IP	11 7 54	...	8,600	Near Caroline Island.			E	iSR <sub>1</sub>	24 56	...	...			
		iPR <sub>1</sub>	11 4	...	...	...			E	SR <sub>1</sub>	25 12	...	...			
		PR <sub>2</sub>	12 51	...	...	...			N,E	L	26 21	...	...			
		iS	17 52	...	...	...			E	M?	30 23	...	...			
		PS	18 32	...	...	...			E	Mn	34 57	...	...			
		iSR <sub>1</sub>	23 10	...	...	...			N	Mn	40 1	19 557	...			
		SR <sub>1</sub>	26 22	...	...	...			N	(?)	27	1173	...			
		L(?)	33 42	...	...	...			E	F				Masked by the following shock.		
		F	14 34 ...	...	...	...		,	E	eP	11 2 5	...	6,445			
,, 25	E	IP	6 46 54	...	9,900	△ from PR <sub>1</sub> —P. Epc : 10°6' S., 163°3' E. (J. S. A.)			E	eS	10 11	...	...			
		PR <sub>1</sub>	50 19	...	...				E	eSR <sub>1</sub>	14 8	...	...			
		iSePeS(?)	57 21	...	...	12°S., 164° E. (U.S.C.G.S.)			Mn	29 15	20	11	...			
	N	i	57 47	...	...	...			F	12 30	...	...	...			
	E	PPS(?)	58 54	...	...	...		,	E	eS	22 47 6	...	...			
		SR <sub>1</sub> (?)	7 3 12	...	...	...			E	eSR <sub>1</sub>	50 55	...	...			
,, 29	E	P	17 35 36	...	6,590	In the region of Marianne Islands.		,	F	23 50	...	...	...			
		iS	43 50	...	...	...			E	eP	11 56	...	...			
		F	18 41 ...	...	...	...			S	15 57	...	...				
,, 30	E	e	5 44 53	...	...	...			SR <sub>1</sub>	3 3 51	...	...	6,420			
		F				Mixed with the following shock.		,	E	8	...	...	...			
,, 30	E	i	6 48 52	...	...	...			E	4 45 48	...	...	6,390			
Feb. 8	E	e	8 40 14	...	...	...			E	53 51	...	...	...			
		i	53 40	...	...	...			E	57 51	...	...	...			
		F	9 34 ...	...	...	...			F	6 7	...	...	...			
,, 12	E	e	5 4 35	...	...	...			E	13 38 54	...	...	6,480			
		i	12 23	...	...	...			S	42 2	...	...	...			
		F				Mixed with the following shock.			E	42 32	...	...	...			
									PS	45 52	...	...	...			
									SR <sub>1</sub>	15 17 ...	...	...	...			

TABLE D<sub>1</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Feb. 23	E	e	0 18 29	...	...	...	Slight. Epc : 26°.5 N., 98°.5 E. Northeast Frontier of Burma.	Mar. 16	E	iP?	22 40 25	...	...	...	
		e	16 54	...	...	...				IS?	47 46	...	...		
		Mn	22 5	12	7	...		,, 21	E	iP	16 15 17	...	...	1,480	Felt at Silchar in Assam.
,, 23	E	eP	0 58 9	...	...	...	Missed as the light was obstructed.		N, E	IS	17 55	...	...		Epc : 26°.6 N., 92°.7 E near Tezpur,
		S							E	L	18 44	...	...		Assam. O : 16h. 12m, 5s. Felt at Dhubri, Sylhet, Bogra, Jalpaiguri, Cherapunji, Dibrug- gath, Gauhati and Sutona.
,, 23	E	eP	14 1 12	...	...	6,610		,, 21	E	e	18 17 13	...	...		
		eS	9 28	...	...			,, 21	E	eP	19 38 43	...	...	5,800	Epc : 45°.5 N., 143°E. (Chufeng).
		eSR <sub>1</sub>	13 18	...	...				IS	46 13	...	...			
,, 25	E	i	0 57 48	...	...				PS	46 43	...	...			
,, 26	E	eP	4 24 30	...	...	6,380			eSR <sub>1</sub>	49 53	...	...			
		eS	32 32	...	...				eSR <sub>2</sub>	51 33	...	...			
		eSR <sub>2</sub>	36 32	...	...										
,, 27	E	eP	1 24 56	...	...	6,190		,, 26	E	eP	9 56 43	...	...	4,510	Epc : 11°.6 S., 64°E.
		S	32 47	...	...				N	S	{ 10 3 4	...	...		
		SR <sub>1</sub>	36 50	...	...				E	IS		...	...		
		Mn	51 8	15	7	...			E	SR <sub>1</sub>	6 25	...	...		
		F							E	Mn	12 47	11	11		
									E	F	11 29	...	...		
Mar. 9	E	e	15 59 55	...	...	...	Distant shock. Epc 8°.9 N., 83°.8 W. O : 15h, 40m, 20s. (U. S. C. G. S.).	,, 26	E	e(P)	15 51 53	...	...	(5,120)	Feeble.
		e	16 3 24	...	...	...	10°.6 N., 83°.4 W. (J. S. A.).		e(S)	58 45	...	...		Felt at Cagayan Islands, Oriental Mindanao.	
		F	18 36	...	...	...			F	16 35	...	...			
,, 9	E	eP	20 22 25	...	...	1,445		,, 28	E	e	4 44 24	...	...		Feeble, Near.
		S	25 0	...	...		Epc : 29°.0 N., 92°.5 E.		e(S)	45 29	...	...			
		SR <sub>1</sub>	25 30	...	...				F	5 0	...	...			
		L	25 56	...	...			,, 31	E	eP	10 38 48	...	...	1,190	Slight.
		F	21 0	...	...				IS	40 48	...	...		Epc : 28°.6 N., 88°.5 E.	
,, 11	E	iP(?)	18 1 5	...	...	830	Slight.		e	42 07	...	...			
		IS(?)	1 35	...	...				F	11 10	...	...			
		Mn	1 50	...	...										
,, 12	E	e	9 30 47	...	...		Train of surface waves.	Apr. 5	E	iP	7 6 39	...	...	6,490	Epc : 5°S., 180°E., near Banda Islands. H = 6h. 56m. 58s.
		S(?)	35 34	...	...				IPR <sub>1</sub>	8 52	...	...			
		L	41 19	...	...				PR <sub>1</sub>	10 10	...	...			
		Mn	45 29	17	12	...			IS	14 47	...	...			
,, 14	E	e(P')	12 15 38	...	...	16,450	Distant. Epc : 23°.8 S., 71°.0 W. O : 11h. 56m. 01s. (J. S. A.)		N	I	14 54	...	...		
		I	16 8	...	...		Epc : 25°S., 70°W., O : 11h. 55m. 48s. (U.S.C.G.S.) Minor damages reported, Taltal, Chile.		E	SR <sub>1</sub>	18 52	...	...		
		ePR <sub>1</sub>	19 8	...	...				F	10 42	...	...			
		IScPcs	26 0	...	...										
		SR <sub>1</sub>	38 15	...	...			,, 7	E	P	18 36 12	...	...	2,520	
,, 15	E	e	6 9 32	...	...	(4,550)	Epc : Sumatra.			S	40 20	...	...		
		S	9 53	...	...				SR <sub>1</sub>	41 15	...	...			
,, 16	E	iP	15 58 12	...	...	4,790	Epc : 18°N., 123°E., Felt in Northern Luzon and slightly in Manila.			F	19 37	...	...		
		ePR <sub>1</sub>	54 56	...	...										
		S	59 45	...	...										
		SR <sub>1</sub>	16 3 8	...	...			,, 14	E	e	21 24 52	...	...		
		Mn	12 13	17	13	...									
		F	17 21	...	...			,, 16	E	eP	3 15 30	...	...	12,220	Epc : 22°.28., 179°.0E. H = 8h. 01m. 34s. Depth = 390 ± Km. (J. S. A.)
										IP	15 38	...	...		
										pP	17 07	...	...		
										sP	17 43	...	...		
										P'	19 04	...	...		

D 4

TABLE D<sub>1</sub>—*contd.*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.		H. M. S.	Sec.	μ	Km.			1937.		H. M. S.	Sec.	μ	Km.		
Apr. 16		PR <sub>1</sub>	19 59	...	...			May. 7	E	e	18 36 47	...	...		
		sP <sub>P</sub>	22 10	...	...					F	19 23	...	...		
		PR <sub>2</sub>	23 0	...	...			,, 9	E	P	14 56 39	...	...	6,545	
		ScPeS	25 37	...	...					ePR <sub>1</sub>	58 58	...	...		Epc: 48° N., 150° E. near Kurile Islands. H = 14h. 46m. 46s.
		i	26 40	...	...					S	15 4 51	...	...		
		pSePeS	27 25	...	...					PS	5 14	...	...		
		sSePeS	28 11	...	...					SR <sub>1</sub>	8 44	...	...		
		e	29 30	...	...					Mn	23 54	20	24		
		sP <sub>S</sub>	30 6	...	...										
		SR <sub>1</sub>	35 16	...	...			,, 10	E	e	15 43 44	...	...		
		sSR <sub>1</sub>	37 38	...	...					i	48 39	...	...		
		SR <sub>2</sub>	39 41	...	...					F	16 47	...	...		
.. 16	E	e	21 37 17	...	...			,, 12	E	IP	2 56 4	...	...		Deep focus, Long Waves poor.
		e	41 42	...	...					iS	3 5 3	...	...		Epc: 3° S., 142° E. Depth = 150 km. (Chiufeng).
		F	22 7	...	...										
.. 29	E	e	18 23 43	...	...			,, 12	E	e	9 15 6	...	...		
		i	33 43	...	...					F	10 6	...	...		
		F	Mixed in the following shock.					,, 12	E	e	13 15	...	...		Epc: 0°, 96° E. West of Sumatra.
.. 29	E	P	19 5 1	...	9,200		Epc : 53°.8 N., 160°.5W. Depth=40+Km. (J. S. A.)			iS?	20 23	...	...		
		iS	15 21	...	...					iSR <sub>2</sub> ?	23 14	...	...		
		PS	15 58	...	...					Mn	35 44	15	8		
		SR <sub>1</sub>	21 4	...	...					F	15 6	...	...		
		SR <sub>2</sub> ?	24 54	...	...			,, 20	E	e	12 24 12	...	...		
		L?	32 27	...	...					i	36 15	...	...		
		Mn	45 40	20	43					F	13 9	...	...		
		F	Masked by the following shock.												
.. 29	E	e	20 27 14	...	...			,, 21	E	e	2 7 5	...	...		
		i	33 51	...	...					i	19 5	...	...		
.. 30	E	P	19 34 2	...	390		Slight. Epc: 29° N., 81° E. in Nepal. H = 19h. 33m. 05s.			F	3 20	...	...		
		P	34 17	...	...			,, 27	E	e	4 52 15	...	...		
		S	34 45	...	...			,, 28	E	IP	20 5 4	...	...	(5,455)	Surface Waves poor.
		S*	34 52	...	...					i	7 44	...	...		
		S(?)	34 59	...	...					iS	12 14	...	...		
		F	Masked by the following shock.							i	15 23	...	...		
.. 30	E	P	20 4 28	...	300		Slight. Epc: Possibly in the neighbourhood of the preceding shock.			F	21 33	...	...		
		P	4 46	...	...			,, 31	E	eP	5 35 19	...	...	407	Epc: 29°. 3N., 81°. 0 E. Western border of Nepal. O = 5h. 34m. 20s.
		S	5 1	...	...					iS	36 04	...	...		
		S	5 21	...	...					E	8				
		F	41	...	...					E	8*	36 15	...		
May. 4	E	i	5 31 34	...	...		Epc : 59°. 4 N., 152° 9W. (J. S. A.).			N	F	50	...		
		Mn	55 40	23	22										
		F	7 0	...	...			,, 31	E	P	15 43 50	...	...	8,890	Surface Waves very poor. Deep focus Epc: 2°. 5 S., 159°. 5 E (Chiufeng).
.. 4	E	e	15 44 27	...	...					iS	54 5	...	...		
		e	47 25	...	...					e	54 52	...	...		
		F	16 12	...	...					e	59 45	...	...		
.. 7	E	e	14 23 25	...	...			June. 1	E	e	14 58 30	...	...		
		e	34 2	...	...					F	15 51	...	...		
		F	15 32	...	...			,, 14	E	i	13 35 28	...	...		
										E	14 55	...	...		

TABLE D<sub>1</sub>—*cond.*

## D 6

TABLE D<sub>1</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
1937.								1937.								
Aug. 4	E	P	H. M. S. 23 41 1	Sec. ...	μ ...	Km. 3,220	△ from Brunner's chart. Depth of focus about 95 km. Epc.: 6°N., 94°.5 E., off N. Sumatra.	Aug. 15	E	iS	41 4 41 51	Sec. ...	μ ...	Km. ...		
	N, E	eP P (?)	41 20	...	...	...				i	42 27	...	...	...		
	E	PP	41 54	...	...	...			M?	43 54	7 17	...	...			
	N	eS	45 43	...	...	...			Mn	12 36	...	...	...			
	E	iS	46 0	...	...	...		" 15	e	P	12 47 51	...	...	1,020	Aftershock of the preceding one.	
	N	i	46 11	...	...	...			iS	49 36	...	...	...			
	E	ss	47 4	...	...	...			M?	50 56	...	...	...			
" 5	E	P	14 54 23	...	...	8,580	△ from Brunner's chart. Depth of focus about 100 km. Time correction about +1m. Epc.: 7°S., 149° E. (Strasbourg).	" 17	E	e	13 22 36	...	...	...		
		PcP?	54 27	...	...	...		" 20	E	iP	6 47 27	...	...	5,760	Epc.: 24°S., 71°E. Indian Ocean. H=6h. 38m. 21s.	
		pP	54 43	...	...	...			iS	54 54	...	...	...			
		sP	55 3	...	...	...			SR <sub>1</sub> ?	59 15	...	...	...			
		PP	57 3	...	...	...			SR <sub>2</sub> ?	7 2 2	...	...	...			
		PPP	59 7	...	...	...		" 20	E	P	12 7 13	...	...	4,555	Epc.: 17°N., 122°E (U. S. C. G. S.).	
		IS	15 4 0	...	...	...			N	e	7 40	...	...	14°10' N., 122°05'E H=11h. 59m. 13s. (Manila)		
		ScS?	4 5	...	...	...			E	PR <sub>1</sub>	8 37	...	...	Destructive in Manila.		
		ss	4 51	...	...	...			E	PR <sub>2</sub>	9 8	...	...			
		SS	9 5	...	...	...			N	PR <sub>3</sub>	9 13	...	...			
		SSS	12 7	...	...	...		" 24	E	e	18 47 20	...	...			
		L?	19 45	...	...	...			i	57 22	...	...	...			
		F	16 17 ...	...	...	...		" 26	E	P	19 2 33	...	...	5,480		
" 8	E	e	5 3 47	...	...	...	Felt at Jorhat in Assam.			PR <sub>1</sub>	4 23	...	...			
		F	Mixed up with microseisms.						S	9 44	...	...				
" 9	E	eP	14 49 0	...	...	6,180	L waves poor. Epc.: 26°N., 140°E. near Bonin Island.			eSR <sub>1</sub>	19 12 57	...	...			
		S	56 51	...	...	...				M?	20 42	...	...			
" 11	E	eSR <sub>1</sub>	15 0 33	...	...	5,555	△ from Brunner's chart. Depth of focus between 600-650 km. Maximum movement of amplitude 22 mm. at S.	" 24	E	Mn?	21 1 33	1040	...			
		e	1 3 48	...	...	...			E	Mn?	35 13	17	232			
		ip	3 55	...	...	...			N	F	18 27	...	...			
		e	5 3	...	...	...		" 26	E	P	19 2 33	...	...			
		ipP	5 49	...	...	...			PR <sub>1</sub>	4 23	...	...				
		isP	6 54	...	...	...			S	9 44	...	...				
		IScP	8 6	...	...	...			eSR <sub>1</sub>	19 12 57	...	...				
		iPcS	8 46	...	...	...			M?	20 42	...	...				
		IS	10 12	...	...	...			Mn	24 53	17	12	...			
		e	12 46	...	...	...		" 31	E	F	20 17	...	...			
		iss	13 31	...	...	...										
		i	13 38	...	...	...										
		SS?	14 24	...	...	...										
		i	17 3	...	...	...										
" 15	E	eP	4 34 50	...	...	?	Deep focus? Epc.: In North China Sea.	Sept. 1	E	iP	14 19 0	...	...	17.00	Epc.: 26° N., 96° E Upper Burma. H=14h. 15m. 15s.	
		e	34 50	...	...	...			E	PR <sub>1</sub>	19 7	...	...			
		PP	36 16	...	...	...			N	e	19 14	...	...			
		PPP	36 31	...	...	...			N, E	S	21 50	...	...			
		IS	40 47	...	...	...			N, E	SR <sub>1</sub>	22 25	...	...			
		e	41 4	...	...	...			E	L	23 5	...	...			
		SSS	44 8	...	...	...				M?	24 25	...	...			
		Mn	54 19	17	7	...				Mn	27 52	11	60	...		
		F	5 29 ...	...	...	...				F	16 20	...	...			
" 15	E	P	11 39 19	...	...	1,020	Epc.: 30° N., 89° E. Tibet.		E	e	8 58 12	...	...		L waves poor, Deep focus? Epc: 31°S., 179°W. Kermadék Islands, (U. S. C. G. S.)	
		P	40 9	...	...	...			i	58 23	...	...	...			
									i	9 8 5	...	...	...			

TABLE D<sub>1</sub>—*contd.*

TABLE D<sub>1</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.		
Sept. 28	E	e	7 24 29	...	...	...		Nov. 10	E	e	6 16 7	...	...	...		
" 28	E	P?	18 26 23	...	...	...			i		18 54	...	...	...		
		S?	38 21	...	...	...			F		20 ...	...	...	...		
		F	14 9 ...	...	...	...		" 10	E	e	19 48 46	...	...	...		
Oct. 1	E	i	19 41 55	...	...	...	Distant.			F	20 2 ...	...	...	...		
" 6	E	e	10 6 57	...	...	...	Distant, Slight.	" 11	E	iP	0 5 3	...	...	1,665	Epc: 22° 5 N., 62° E. North Arabian Sea. H=oh. 01m. 30s.	
" 6	E	IP	17 16 57	...	...	(9,345)	Deep focus type ? Epc: 10°S., 150°E. New Guinea. (Strasbourg).		S	7 59	...	...	...			
		PR <sub>1</sub>	20 18	...	...	...			SR <sub>1</sub>	8 24	...	...	...			
		I(ScPcS?)	27 2	...	...	...			L	8 59	...	...	...			
		SR <sub>1</sub>	32 37	...	...	...			F	Lost while changing chart.						
" 20	N, E	P	1 24 48	...	...	365	Shock of moderate intensity. The Punjab shaken. Also felt at Meerut and Dehra Dun. Epc: 30° 0 N., 78° 2 E near Dehra Dun. 0=1h. 24m. 00s.	" 12	E	e(P)	14 41 27	...	...	690	Slight, near. Epc: 33°N.; 77° E., H=14h. 39m. 50s.	
	N,E	P*	24 57	...	...	...			IS	42 38	...	...	...			
	N	iS	25 52	...	...	...			F	15 7 ...	...	...	...			
	N,E	F	Lost while changing chart.					" 12	E	IP	17 27 22	...	...	720		
" 22	E	e	16 20 47	...	...	...	Slight. Epc: 0° 5 N., 96° 0 E., West off Sumatra. H=16h. 14° 5m.		S	28 42	...	...	...			
	E	i	26 4	...	...	...			S	29 32	...	...	...			
" 24	E	i	11 58 49	...	...	...	Slight.	" 13	E	i	10 15 54	...	...		Slight, distant.	
" 25-26	E	i	23 39 23	...	...	...	Slight.			F	Mixed up with the following shock.					
		F	0 43 ...	...	...	...		" 13	E	e	11 53 46	...	...	1,380	△ from S-H. Epc: 38°N., 70° 5 E.	
" 29	N, E	P	7 29 10	...	...	1,267	Slight. Felt at Peshawar, Lahore, Rawalpindi and Srinagar. Epc: 37° 0 N., 70° 5 E. h=250-300km 0=7h. 29m. 30s. Epc: 39°N., 69°E. Turkestan. (Strasbourg.) Feeble, near.		IS	55 51	...	...	...	...		
	N,E	sP	29 55	...	...	...			SR <sub>1</sub>	56 17	...	...	...			
	N,E	iS	31 9	...	...	...			Mn	59 3 10 18	...	...	...			
	E	F	8 6 ...	...	...	7,235			F	12 52 ...	...	...	...			
" 30	E	e	8 51 32	...	...	...		" 14	N,E	P	11 0 40	...	...	1,180	Shock of great intensity. Felt very strongly in the Punjab, Kashmir and N. W. F. Province.	
		F	9 5 ...	...	...	...			N,E	i	0 43	...	...			
" 30	E	e	20 27 35	...	...	...	Feeble; near.		N	i	2 11	...	...		Epc: 37° 3 N., 72° 0 E., north of the Hindukush. (Tentative). h=200 km. 0=10h. 58m. 05s. 36° 5 N.; 70° 5 E. h=220 km. (Strasbourg). 35° 2 N.; 72° 8 E. h=250 km. H=10h. 58m 12s. (J. S. A.)	
		F	48 ...	...	...	...			N,E	S	2 29	...	...			
Nov. 1	E	e	12 33 26	...	...	...	Feeble; near.		E	F	14 53 ...	...	...			
		i	33 38	...	...	...										
		F	48 ...	...	...	...										
" 2	E	e	11 17 11	...	...	...		" 14-15	E		28 59 8	...	...	...		
		F	12 40 ...	...	...	...			F	0 53 ...	...	...	...			
" 2	E	e	16 16 9	...	...	...	Tremors.									
" 5	E	i(P?)	9 38 52	...	...	...		" 15	N,E	IP	21 39 27	...	...	810	Shock of moderate intensity. Epc: 34° 5 N., 77° 5 E.; east Kashmir. 0=21h. 07m. 34s.	
		i(S?)	46 48	...	...	...			N,E	IS	40 55	...	...			
		F	10 29 ...	...	...	...			N,E	S	41 41	...	...			
" 7	E	P	19 9 58	...	...	885	Slight; Felt at Srinagar and Peshawar. Epc: 36° 8 N., 73° 5 E. Hindukush.		N	Mn	42 31 9 > 500	...	...			
		P	10 48	...	...	...			E	F	23 33 ...	...	...			
		iS	11 23	...	...	...				S	5 31 49	...	...			
		S	12 23	...	...	...				S?	82 39	...	...			
		E	19 58 ...	...	...	...				F	55 ...	...	...			
" 10	E	i	2 41 52	...	...	...		" 16	E	eP	13 52 2	...	...	1,05	Slight, near. Absolute times uncertain by ± 2 sec.	
		F	46 ...	...	...	...				IS	54 0	...	...			
										F	14 8 ...	...	...			

TABLE D.—*contd.*

TABLE D<sub>1</sub>—concl.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.		
Dec. 20	E	P	5 0 37	...	...	...	Near, Slight. Epc : 29° N., 81° E. Western border of Nepal. O = 4h 59m. 50s.		E	SR <sub>1</sub>	58 6	...	...	...		
	N	e	0 41	...	...	...			E	SR <sub>2</sub>	14 2 47	...	...	...		
	E	i	0 47	...	...	...			E	Mn	34 19	26	174	...		
	E	i	1 19	...	...	...			N	Mn	40 45	26	193	...		
	N	is	1 29	...	...	...			E	F	18 12	...	...	...		
,, 22	E	e	4 0 31	...	...	...	Distant, slight.	,, 24†	E	e	6 40 37	...	...	...	Distant, Slight.	
,, 23	E	P <sup>1</sup>	13 37 33	...	...	15,220	Great, Rocked Mexico and the surrounding area. Epc : 17° 5N. 97° 5W. H. O. = 13h. 17m. 56s. (Strasbourg). Destructive in Mexico.			Mn	Between 7h 51m 4s to 52m 4s	23	19	...		
	N;E	PR <sub>1</sub>	40 21	...	...	...		,, 25†	E	P	10 2 59	...	...	...		
	N;E	PR <sub>2</sub>	43 17	...	...	...			e(S?)		8 50	...	...	...		
	N;E	ScPcS	44 13	...	...	...		,, 28†	E	IP	3 19 15	...	...	6,200	Surface Waves poor.	
	E	ScPcPcS	46 49	...	...	...				is	27 7	...	...	...		
	N	i	47 13	...	...	...		,, 28†	E	e	6 37 57	...	...	...	Distant, slight.	
	N	i	50 10	...	...	...				i	45 7	...	...	...		
	E	PScPcS	50 24	...	...	...		,, 31†	E	e	18 3 28	...	...	...	Distant, slight.	
	E	PPS	52 1	...	...	...				F	20 18	...	...	...		
	N	i	52 25	...	...	...										

†Absolute times uncertain by ±3 secs.

G. CHATTERJEE,  
*Meteorologist-in-charge, Upper Air Observatory, Agra.*

# STATION—COLABA OBSERVATORY, BOMBAY.

*Lat. 18° 54' N. Long. 72° 54' E. Height above M. S. L. 6 metres.*

*Lithologic foundation : Trap Rock.*

*Instruments :—Milne-Shaw seismographs, North-South (N) and East-West (E) components, installed in an underground constant temperature room. Photographic registration.*

## INSTRUMENTAL CONSTANTS.

Component.	Steady mass (Kg.)	T. (sec.)	Vm	$\varepsilon$	Paper speed (mm./min.).	Period for which the constants apply.
N	0.45	12	250	20:1	8	Jan.—June.
	"	"	"	15:1	"	July—Sept.
	"	"	"	33:1	"	Oct.—Dec.
E	"	"	350	100:1	"	Jan.—Aug.
	"	"	"	20:1	"	September.
	"	"	"	77:1	"	October.
	"	"	"	20:1	"	Nov.—Dec.

TABLE D<sub>2</sub>.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Jan. 4	N,E	e	23 7 42	...	...	...	Time uncertain due to congestion of lines.	Jan. 7	N,E	IP	13 26 25	...	...	2,955	Great, China. Epo : 35°N., 96°.5 E. O: 13h. 20m. 42s. 36°.5N., 97°.5E. (U. S. C. G. S.) 36°.1N., 98°.6E. (J. S. A.)
	N	e	13 30	...	...	...			N,E	PP	27 1	...	...	...	
" 5	E	IP	0 5 46	...	...	(7,200)	Slight. Distant. Deep focus ? Epc : 4°S., 135°E. North-West New Guinea.		N,E	IS	31 5	...	...	...	
	N,E	IS	14 34	...	...	...			N,E	SS	32 17	...	...	...	
	N,E	F	1 15 36	...	...	...			N,E	L	34 ...	...	...	...	
" 5	E	IP	4 57 12	...	...	(7,235)	Slight. Deep focus ? Near Northwest New Guinea.		E	Mn	39 ...	8	> 44	...	
	N,E	e	5 1 8	...	...	...			N	F	17 82	...	...	...	
	N,E	eS	6 2	...	...	...			E	F	45 ...	...	...	...	
" 5	N,E	e	11 18 30	...	...	...	Slight. Epc: North Riu Kiu Islands (Chiufeng).	Jan. 7	N,E	e	17 56	...	...	...	Aftershock of the previous great shock?
	E	e	21 18	...	...	...			N,E	e	18 00 23	...	...	...	
	N,E	i	26 11	...	...	...			N	Mn	3 18	7	6	...	
	N	i	27 18	...	...	...			N,E	F	29 ...	...	...	...	
" 5	N	e	17 4 32	...	...	...		" 12	N,E	e	5 49	...	...	...	Feeble.
	N,E	e	7 23	...	...	...			N,E	e	51 ...	...	...	...	
	N,E	F	25 ...	...	...	...			N,E	e	58 23	...	...	...	
" 5	N,E	eP	21 47 25	...	...	6,020	Slight. Epc: 31°N., 132°E. Off South Japan. O: 21 h. 38 m. 0s.		N,E	Mn	55 29	...	...	...	
	N,E	S	55 7	...	...	...			N,E	F	6 10	...	...	...	
	N	Mn	22 17 32	11	5	...			N,E	e	5 25 8	...	...	...	
	E	Mn	16 34	11	4	...			N,E	e	28 0	...	...	...	
	N,E	F	23 1 ...	...	...	...		" 16	E	eP(?)	13 22 30	...	...	2,480 ?	Feeble. Felt strongly at Salona and Gauhati and feebly at Tespur, Naya Dumka and Shillong.
" 7	N,E	IP	6 22 24	...	...	6,750	Slight. Epc: 35°.8N., 141° E. Japan. O: 6h. 12m. 15s.		N,E	S	26 34	...	...	...	
	N,E	eS	30 48	...	...	...			N,E	L(?)	28 80	...	...	...	
	N,E	F	7 27 ...	...	...	...			N,E	F	41 ...	...	...	...	

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TABLE D<sub>2</sub>—*contd.*

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude	△	Remarks.	Date.	Com	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	
			H. M. S.	Sec.	μ	Km.					H. M. S.	Sec.	μ	Km.		
1937.																
Jan. 16	N,E	e	19 28 10	...	...	...	Feeble. Near.	1937	N,E	P	5 4 50	...	...	6,280	Slight.	
	N,E	e	28 32	...	...	...		Feb. 12	E	PcP(?)	5 49	...	...	..		
	N	Mn	30 32	...	...	...			N,E	e	7 51	...	...	...		
	E	Mn	30 30	...	...	...			N,E	S	12 48	...	...	...		
	N,E	F	45	...	...	...			E	ScS	14 53	...	...	...		
.. 19	N	Mn	13 49 25	...	...	...	Feeble. Distant.		N,E	L	22	...	...	...		
	E	Mn	50 30	...	...	...			N,E	F	Mixed up with the next shock.					
.. 23	N,E	P	11 8 14	...	...	9,220	Slight. Surface waves poor. Near Caroline Islands?	" 12	N,E	eP	5 39 22	...	...	3,245	Slight. Epc: Gobi desert.	
	N,E	S	18 35	...	...	...			N,E	1S	44 25	...	...	..		
	N,E	PS	19 23	...	...	...			N,E	L	48	...	...	..		
	E	SS	24 13	...	...	...			N	Mn	50 41	11	9	...		
	N	F	12 49	...	...	...			E	Mn	52 13	7	4	...		
	E	F	13 00	...	...	...			N,E	F	6 17	..	...	...		
.. 25	N	eP	6 47 24	...	...	10,400	Moderate. Epc: 10°.68., 163°.3 E. (J. S. A.) 12°S., 164°E. (U. S. C. G. S.).	" 13	E	e	11 6 44	...	...	...	Feeble.	
	E	iP	6 47 24	...	...	10,400			N,E	e	10 4	...	...	..		
	N,E	ISKS	57 53	...	...	...			E	F	30	...	...	..		
	N,E	S	58 35	...	...	...			" 14	E	e	20 11	...	...		
	E	PS	59 30	...	...	...				N,E	e	1 31	...	...	...	
	N,E	SS(?)	7 6 0	...	...	...				N,E	e	39 14	...	...		
	N,E	L	22	...	...	...				E	F	56	...	...		
	N	Mu	37 00	16	17	...				" 15	E	e	...	...		
	E	Mn	37 4	15	12	...				N,E	e	...	...	...		
	N,E	F	10 6	...	...	...				" 16	E	M	9 45	...	...	
											N,E	1	10 58 30	...	...	
.. 28	E	e	11 45 0	...	...	...	Feeble.	" 10	N,E	1	11 08 41	...	...	..		
	N	e	48 43	...	...	...				E	1	04 15	...	...		
	N,E	F	12 20	...	...	...				E	F	21	...	...		
.. 29	E	iP	17 36 28	...	...	(7,300)	Slight. In the region of Mariana Islands (Chufeng).	" 21	N,E	iP	7 13 34	...	...	7,380	Great. Epc: 45°.2N., 148°.6E. (J. S. A.)	
	N	eP(?)	17 36 28	...	...				N,E	PcP	14 13	...	...	..		
	N,E	e	36 43	...	...	...			E	e	17 40	...	...	..		
	N,E	IS	45 21	...	...	...			N,E	eS	22 30	...	...	..		
	N,E	e	45 51	...	...	...			N,E	PS	23 6	...	...	..		
	N,E	F	18 31	...	...	...			N,E	ScS	23 40	...	...	..		
Feb. 1	N,E	e	00 4	...	...	...			N,E	SS	27 23	...	...	..		
	N,E	F	19	...	...	...			N,E	L	35	...	...	..		
.. 1	N,E	e	9 25 50	...	...	...	Feeble.		N,E	Mn	43 45	19	127	...		
	N,E	e	35 58	...	...	...			E	Mn	46 47	16	132	...		
	N,E	F	10 29	...	...	...			N,E	F	Mixed up with the following after shock.					
.. 2	N,E	e	16 22	...	...	...		" 21	N,E	eP(?)	11 8 7	...	...	..	Feeble.	
	N,E	F	17 18	...	...	...			N,E	eS(?)	12 12	...	...	..	Aftershock of the previous shock?	
.. 5	N,E	e	11 54 28	...	...	...	Feeble.			N	F	12 6	...	...	..	
	N,E	e	58 9	...	...	...				E	F	23	...	...	..	
	N,E	F	12 24	...	...	...				N,E	e	3 4 58	...	...	..	
.. 8	N,E	e	8 45	...	...	...	Feeble.	" 22	N,E	e	4 22	...	...	..		
	N,E	e	52	...	...	...				E	F	4 50	...	...	..	
	N,E	F	9 22	...	...	...				N,E	F	5 48	...	...	..	

TABLE D<sub>8</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Feb. 22	N,E	e	13 34 31	...	...	...	Feeble.	Mar. 6	N,E	e(P)	20 24 1	...	...	2,245	P in minute eclipse. Slight. Epc. 29° 0N., 92° 5E.
	N,E	e	44 4	...	...	...			N,E	e(S)	27 46	...	...	...	
	E	F	14 52	...	...	...			N,E	e	29 33	...	...	...	
" 23	E	IP	0 14 43	...	2,765	Feeble. Epc.: Near 26°N. 98°E, North-East Frontier of Burma.			N,E	i	30 23	...	...	...	
	N,E	IS	19 10	...	...				N,E		31 37	...	...	...	
	N, E	F	Mixed up with following shock.						E	Mn	33 45	...	...	...	
" 23	N, E	IP	0 59 10	...	7,555	Slight. △ from PP-P. Aftershock of 21st 7h(?)			N	F	50 ...	...	...	...	
	E	PP	1 1 32	...	...				E	F	21 00	...	...	...	
	E	i	3 33	...	...			" 11	N,E	M	18 9	...	...	...	Sismic activity.
	N, E	eS(?)	8 18	...	...			" 12	N	eP } (?)	9 28 18	...	...	(5,000)	Slight.
	E	i	12 14	...	...				N,E	IP }	30 36	...	...	...	
	E	F	3 19	...	...				E	eS }	35 2	...	...	...	
" 2	N,E	e	9 4 10	...	...	...	Slight.		N	IS }	37 48	...	...	...	
	E	Mn	11 38	...	...	...			N,E	SS	38 18	...	...	...	
	N,E	F	25	...	...	...			N,E	SeS	42 ...	...	...	...	
" 23	N,E	e	14 2 38	...	...	...	Feeble.		N,E	L	47 27	...	...	...	
	E	e	4 32	...	...	...			N	Mn	11 14	...	...	...	
	E	F	42	...	...	...			E	F	36 ...	...	...	...	
	N	F	55	...	...	...			N,E		12 45	...	...	...	
" 25	N,E	e	0 59	...	...	...	Feeble.	" 13	N,E	F	13 20	...	...	...	
	N,E	F	1 40	...	...	...			N,E	IP'	12 15 29	...	...	15,960	
" 25	N,E	e	20 2	...	...	...	Feeble.	" 14	N,E	i	15 45	...	...	...	Slight. Epc.: 28° 8' S. 71° W. O.; 11h. 56m. Ols. (J. S. A.)
	N,E	e	7 3	...	...	...			E	eSKKS	25 21	...	...	...	
	N,E	F	36	...	...	...			E	i	25 33	...	...	...	
" 26	N,E	e	4 54	...	...	...	Feeble.		N,E	e	29 16	...	...	...	
	N,E	F	5 29	...	...	...			E	e(SS)	37 9	...	...	...	
" 27	N,E	e	1 25 58	...	...	...			N,E	L	59 ...	...	...	...	
	E	F	2 21	...	...	...			E	Mn	13 18 16	20	4	...	
" 27	N,E	e	14 51 23	...	...	...	Feeble.		N,E	F	14 18	...	...	...	
	N,E	e	59 38	...	...	...		" 15	N,E	eP(?)	6 3 0	...	...	4,120(?)	P in minute eclipse. Slight. Epc.: Sumatra.
	N	F	15 30	...	...	...			N,E	ePP	4 34	...	...	...	
Mar. 4	N,E	e	7 36	...	...	...	Feeble.		N,E	S(?)	8 55	...	...	...	
	N,E	F	8 20	...	...	...			N,E	F	55 ...	...	...	...	
Mar. 8	N,E	e	8 21 17	...	...	...	Feeble. Near.	" 16	E	i(P)	15 54 00	...	...	5,440	No record in N from 14h. 34m. to 16h. 24m.
	N,E	e	23 37	...	...	...			E	i	54 42	...	...	...	
	N,E	i	24 10	...	...	...			E	i(PP)	55 49	...	...	...	
	N,E	e	25 26	...	...	...			E	L	16 8 ...	...	...	...	
	N,E	F	44	...	...	...			E	Mn	16 38	16	4	...	
" 9	N,E	e(P <sub>1</sub> )	15 59 56	...	16,000	Slight. △ from. (PPS—P <sub>1</sub> )			E	F	45 ...	...	...	...	
	N	e	16 3 19	...	...	...	Epc.: 8° 9N., 83° 8W. H—15h. 40m. 20s. (U. S. C. G. S.)		N,E	iS	22 40 45	...	...	...	
	N	i	6 16	...	...	...	Epc.: 10° 6N., 83° 4W (J. S. A.).		N,E	23 22	...	...	...		
	N,E	e(PPS)	16 0	...	...	...		" 19	N,E	iP <sub>1</sub>	18 31 31	...	...	...	
	N,E	L(?)	48	...	...	...			N,E	i	31 52	...	...	...	
	N,E	F	18 25	...	...	...			N	e }	35 12	...	...	...	
	N,E	i							E	i }					

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TABLE D<sub>2</sub>--*contd.*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Mar. 19	N, E	e	58 40	...	...	...		April 3	N, E	i	25 23	...	...	...	
	E	Mn	19 29	...	...	...			N, E	F	57	...	...	...	
	N	Mn	30	...	...	...		,, 5	N, E	iP	07 07 01	...	...	6,780	Moderate. P in minute eclipse.
	E	F	19 54	...	...	...			N	PP	9 20	...	...	Surface Waves small.	
	N	F	20 12	...	...	...			N, E	IS	15 28	...	...	Epc : 5°S., 130°E. near Banda Islands.	
									N, E	PS	15 51	...	...	H=6h. 56m. 53s.	
,, 21	N, E	eP	16 16 45	...	...	2,300	Slight. Epc : 26° 6N., 92° 7E. near Tez-pore, Assam.		N	SeS	17 4	...	...		
	N, E	i(pP)(?)	16 53	...	...		O : 16h. 12m. 5s. Felt at Dhubri; Sylhet, Bogra, Jalpaiguri, Cherrapunji, Dibrugarh, Gauhati and Salona.		N, E	SS	19 37	...	...		
	N	PPP	17 14	...	...				N	SSS	22 29	...	...		
	N, E	18	20 35	...	...				N, E	L	27	...	...		
	N, E	i(sS?)	20 50	...	...				N, E	F	10 26	...	...		
	N	PcP	20 55	...	...			,, 5-6	N, E	e	23 49 26	...	...	Feeble.	
	N, E	SS	21 6	...	...				N	e	52 24	...	...		
	N, E	L	22 10	...	...				N, E	F	00 22	...	...		
	N	F	17 21	...	...				N	M	14 16 7	...	...	Seismic activity.	
	E	F	24	...	...				N	M	16 30	...	...		
,, 21	N, E	e	18 18	...	...		Feeble.		N, E	iP	18 36 22	...	...	2,720	
	N, E	e	24 47	...	...				N, E	IS	40 45	...	...	Slight. Surface Waves poor.	
	N, E	i	26 00	...	...				N, E	L	45	...	...	Epc : 36°N., 53°·0E. Persia.	
	N, E	F	46	...	...				N, E	F	19 24	...	...		
,, 21	N, E	e	19 39 44	...	...		Feeble. Epc : 45°5N., 143°E. (Chinfeng).		N, E	e	15 24	...	...		
	N, E	e	48 7	...	...				N, E	F	16 21	...	...		
	E	F	20 37	...	...				N	M	11 26 47	...	...	Feeble.	
,, 23	N	e	01 08 47	...	...		Feeble.		N	M	27 41	...	...	Feeble activity.	
	E	i							N	M	15 17	...	...	Feeble.	
	N, E	e	8 42	...	...				N	F	32	...	...	Feeble activity.	
,, 26	N, E	eP	9 55 27	...	...	3,535	Slight. Epc : 11°5 S., 64°E.		N, E	e	21 27	...	...	Feeble.	
	N	PPP	56 32	...	...				N	M	35 45	...	...		
	N, E	S	10 0 45?	...	...				N	F	51	...	...		
	N, E	L	4 40	...	...				N	F	57	...	...		
	N	Mn	9 27	11	5				N	M	19 28 38	...	...	Feeble.	
	E	Hn	9 33	11	4				N	M	28 33	...	...		
	N	F	11 22	...	...				N	F	51	...	...		
,, 27	N, E	e	22 45	...	...				N	e	20 18	...	...		
	N, E	F	23 25	...	...				N	F	51	...	...		
,, 29	N, E	e	7 59	...	...				N, E	eP	3 15 48	...	...	12,500	
	N, E	e	8 9 15	...	...				N, E	P	16 00	...	...	Moderate.	
									N, E	e (pP?)	17 27	...	...	P in minute eclipse.	
,, 31	N, E	eP(?)	10 40 21	...	...	1,920	Feeble. Epc : 28°.5 N., 88°.5 E.		N, E	e (sP?)	18 08	...	...	from mean of SKS	
	N, E	eS	48 40	...	...				N, E	i	19 09	...	...	—P and SS—P.	
	N, E	L	45 16	...	...				N, E	PP	20 28	...	...	Epc : 22°.2 S., 179°·0E.	
	N	Mn	47 24	...	...				N, E	PP	20 34	...	...	H=03h. 01m. 34s.	
	E	Mn	47 44	...	...				N, E	ipPP	22 15	...	...	Depth = 390± km. (J. S. A.).	
	N, E	F	11 24	...	...				N, E	i	22 37	...	...		
April 3	N	M	1 42 37	...	...				N, E	SKS	26 00	...	...		
	E	M	43 15	...	...				N, E	i	27 10	...	...		
5 3	E	e	21 18 45	...	...		Feeble.								

TABLE D<sub>9</sub>—*contd.*

Date.	Compt.	Phase	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ.	Km.		1937.			H. M. S.	Sec.	μ.	Km.	
Apr. 16	N, E	iSKS?	28 00	...	...	...		May. 9	E	i(P)	14 57 44	...	...	...	Slight.
	N, E	iSKS	28 45	...	...	...		" 9	N, E	i(S)	15 6 51	...	...	...	Epc : 48° 0' N., 150° 5' E. near Kurile Islands.
	N, E	i	30 00	...	...	...		" 9	N, E	e	7 50	...	...	...	
	E	iPS	30 23	...	...	...		" 9	E	e	11 0	...	...	...	
	N, E	iSP	32 15	...	...	...		" 9	E	e	14 ...	...	...	...	
	N, E	iS~	36 00	...	...	...		" 10	N, E	F	16 40 ...	...	...	...	
	N, E	e	50 00	...	...	...		" 10	N, E	e	15 44 ...	...	...	...	
	N, E	F	06 20	...	...	...		" 10	E	e	46 7	...	...	...	
" 29	N, E	P	19 5 51	...	...	10360	Moderate. ^ from PP-P.	" 11	E	(i)	48 55	...	...	...	
	N, E	ePP	9 32	...	...	...	Epc: 53° 8' N., 160° 5' W. Depth = 40+kms. (J. S. A.)	" 11	N, E	i (P?)	2 56 20	...	...	7,890	Slight.
	N, E	e	16 32	...	...	...	N—No record.	" 11	N, E	e	57 17	...	...		Deep focus.
	N, E	S (?)	16 46	...	...	...	H=18h. 52m. 40s.	" 12	N, E	e	58 15	...	...		Epc: 3° N., 142° 5' E.
	N, E	e	18 35	...	...	...		" 12	N, E	i (S?)	3 5 40	...	...		Depth=150 km. (Chilieng).
	N, E	e (SS)	23 17	...	...	...		" 12	N, E	e	6 18	...	...		
	N, E	eL	36 ...	...	...	...		" 12	N, E	F	4 10 ...	...	...		
	E	eL	37 ...	...	...	...									
	N	Mn	49 23	24	28	...									
	E	Mn	54 40	19	11	...									
	N, E	F	Lost in following shock.												
" 29	N, E	e	20 28 22	...	...	5,870		" 12	N, E	eP	13 14 45	...	...	3,850	Slight.
	N, E	i	35 55	...	...	...		" 12	N, E	IS	19 50	...	...		Epc: 0°, 96° E. West of Sumatra.
	N, E	e	38 19	...	...	...		" 12	N, E	e	22 30	...	...		
	N, E	F	21 36	...	...	...		" 15	N, E	F	15 22 ...	...	...		Feeble.
" 30	E	eP(?)	19 36 06	...	...	1,400	Slight. Epc: 29° N., 81° E. in Nepal. H=19h. 33m. 05s.	" 16	N, E	e	7 59 ...	...	...		Feeble.
	E	eS	38 35	...	...	...	N—No record.	" 16	N, E	F	9 15 ...	...	...		
	E	i	39 15	...	...	...		" 20	N, E	e	12 52 ...	...	...		Feeble.
	E	Sg(?)	40 8	...	...	...		" 20	N, E	F	13 40 ...	...	...		waves?
	E	Mn	40 37	...	...	...		" 27	E	e	4 54 ...	...	...		Feeble.
	E	F	20 5	...	...	...		" 27	N	e	5 9 ...	...	...		
" 30	E	e	20 9 30	...	...	...	Epc: Possibly in the neighbourhood of the preceding shock. N—No record.	" 28	N, E	iP	20 ~ 49	...	...	(6,230)	Slight. Deep focus. Surface waves very poor.
	E	e	9 30	...	...	...		" 28	N, E	i	8 32	...	...		
	E	e	10 28	...	...	...		" 28	N, E	IS	13 48	...	...		
	E	e	12 26	...	...	...		" 28	N, E	e	16 57	...	...		
	E	F	32 ...	...	...	...		" 28	N, E	i	17 05	...	...		
	N, E	e	23 32 10	...	...	...	Feeble, Distant.	" 28	N, E	F	21 26 ...	...	...		
May 1-2	N, E	e	56 ...	...	...	...									
	N, E	F	0 37 ...	...	...	...									
" 2	N, E	e	28 20	...	...	...	Feeble.	" 29	E	Record lost from 29d 3h 00m to 29d 10h.					
	N, E	F	0 9 ...	...	...	...		" 29	N	Record lost from 29d 4h 10m to 29d 7h 52m.					
	N	No record from 4d 3h 4m to 4h 10m, 8h 27m to 7h 1m, and 4d 8h 28m to 5d 2h 30m.						" 30	E	Record lost during adjustments from 2h 52m to 4h 38m.					
	E	No record from 4d 5h 0m to 5d 5h 20m.						" 31	N, E	P	5 37 26	...	...	1,400	Slight.
" 4	N	e	5 32 43	...	...	...	Slight. Epc: 59° 4' N., 152° 9' W. (J. S. A.)	" 31	N, E	S(?)	39 42	...	...		△ from P—O.
	e	59 ...	...	...	...	...		" 31	N, E	e	40 24	...	...		Epc: 29° 3' N., 81° 0' E., Western border of Nepal.
	F	Lost in shifting.						" 31	N, E	i	41 6	...	...		0-5h 34m 30s.
" 6	N, E	e	10 41 31	...	...	...	Feeble.	" 31	N, E	e	42 22	...	...		
	N, E	F	11 10 ...	...	...	...		" 31	N, E	F	6 7 ...	...	...		

TABLE D<sub>2</sub>—*contd*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.		
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.			
May 31	E	e	15 44 23	...	...	...	Slight. Deep focus. Epc: 2°.5 S., 159°.5 E. (Chiufeng).		N, E	e(PP)	12 21	...	...	...			
	N, E	i	54 36	Sharp, maximum.					N, E	e	14 ...	Lost in minute gap.					
	N, E	F	17 10	...	...	...			E	e	15 38	...	...				
June 1	E	e	15 0 0	...	...	...			E	(SKS)	19 01	...	...				
	N	e	08 ...	...	...	...			E	(SKKS)	19 36	...	...				
	N	F	19 ...	...	...	...			N, E	PS	21 6	...	(In minute mark).				
	E	F	40 ...	...	...	...			E	PPS	21 38	...	...				
.. 7	N	e	3 51 ...	...	...	...			N, E	e	36 07	...	...				
	N	e	56 ...	...	...	...			N, E	e	7 08 24	...	...				
	N, E	F	4 33 ...	...	...	...			N, E	e	11 23	...	...				
.. 12	N, E	Record lost from 15h 19m to 16h 26m.							E	Mn	27 ...	30 26	...				
.. 21-22	N, E	IP*	15 32 50	...	...	18,500	Moderate. △ from SS—P <sub>1</sub> . Epc: 8°S., 80° W. (U. S. C. G.) (S.) 6°.8 S., 79°.9 W. H=15h. 13m. 17s. Depth=50km. Felt along the western coast of Peru. Some damage to coastal cities, particularly Trujillo, 300 miles N-W of Lima. Also felt in Lima. (J. S. A.)		July 10	N	Record is lost from 10d 8h 20m to 11d 3h 40m.						
	N, E	PP	36 22	...	...	...			E	Record is lost from 10d 10h 00m to 11d 4h 1m.							
	N, E	i	43 20	...	...	...			E	e	13 49 55	...	...				
	E	i	46 28	...	...	...			E	e	58 53	...	...		Feeble.		
	N, E	i	47 15	...	...	...			E	e	59 45?	...	...				
	E	e	48 25	...	...	...			E	e	14 2 59	...	...				
	E	e	49 50	...	...	...			E	e	5 36	...	...				
	N, E	SS	55 35	...	...	...			E	Mn	19 ...	...	...				
	N, E	SSS	16 01 27	...	...	...			N	Mn	20 ...	...	...				
	N	eL	18 ...	...	...	...			E	F	15 25 ...	...	...				
	E	eL	20 30	...	...	...				E	e	18 30 ...	...	...		Feeble.	
	E	eL	26 ...	...	...	...				E	Mn	46 ...	...	...			
	E	Mn	48 30	19 120	...	...				N	Mn	19 ...	...	...			
	N	Mn	43 30	19 11	...	...				E	F	19 28 ...	...	...			
	N	F	17 39	...	...	...					E	e	0 08 00	...	2,955		
.. 30	E	e	14 17 ...	...	...	...	Feeble.			E	e	8 36	...	...		Slight. Epc: As of July 1.	
	E	F	15 16 ...	...	...	...				E	eS?	12 40	...	...			
July 1	N, E	IP	11 55 36	...	...	2,955	Moderate. Epc: 7°.5 N. 98° E. North of Sumatra. H=11h. 49m. 55s. In minute mark.			E	Mn	0 20 ...	13 9	...			
	N, E	PP	56 13	...	...	...			E	F	1 30 ...	...	...				
	N, E	PPP	56 28	...	...	...				E	e	22 38 48	...	...		Slight, feeble.	
	N, E	e	58 28	...	...	...				E	e	39 55	...	...			
	N, E	PcP	59 11	In minute mark.						E	e	41 03	...	...			
	N, E	IS	12 00 16	...	...	...				E	e	42 10	...	...			
	N, E	SS	01 11	...	...	...				E	eS	47 00	...	...			
	N, E	L	03 17	...	...	...				E	M	23 7 ...	...	...			
	N, E	ScS	06 23	...	...	...				N	M	9 ...	...	...			
	E	Mn	07 ...	16 26	...	...				E	Mn	10 ...	15 6	...			
	N, E	F	14 26 ...	...	...	...				E	F	Lost in microseisms.					
.. 2	E	e(P)	2 50 48	...	...	11,370	Slight. △ from PP—P.			N, E	e	10 37 ...	...	...		Feeble.	
	N, E	i(PP)	54 53	...	...	...				N, E	F	11 23 ...	...	...			
	N, E	i	3 00 14	...	...	...					E	e	01 58 20	...	...		Slight.
	E	Mn	34 ...	23 16	...	...					N, E	F	Lost in shifting.				
	N, E	F	Lost in microseisms.														
.. 4	E	e(P)	6 8 34	...	...	10,710	Slight. △ from PS—P.			N, E	e	3 15 ...	...	...		Feeble.	
	E	i	9 22	...	...	...				E	M	48 ...	...	...			
										E	F	4 45 ...	...	...			

TABLE D<sub>2</sub>—contd.

Date	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937,			H. M. S.	Sec.	μ	Km.	
July 19	N,E	e	10 9 ...	...	...	...	Feeble.	July 31	N,E	eP(?)	20 43 26	In minute gap.	4,455	Moderate Epc : In the region of 38° N., 114° E in China.	
	N,E	e	15 ...	...	...	...			N,E	PP	44 56	...	...		
	N,E	F	Lost of microseisms.						N,E	IS	49 41	...	...		
" 19	N,E	i	19 54 46	...	...	...	Slight. Epc: 1° 5' N., 77° 5' W. H=19h. 35m. 50s. h=175 km. (J. S. A.)		N,E	SS	52 35	...	...		
	E	i	55 26	...	...	...			E	Mn	58 ...	10 30	...		
	N,E	i	56 40	...	...	...			N	Mn	21 01 ...	9 15	...		
	N,E	e	58 45	...	...	...			N,E	F	22 00	...	...		
	N,E	i	20 2 15	...	...	...		Aug. 1	N,E	eP	10 48 49	...	4,345	Moderate. Epc : Near that of July 31.	
	N,E	e	4 32	...	...	...			N,E	PP	50 25	...	...		
	N,E	e	16 30	...	...	...			N,E	IS	54 58	...	...		
	N,E	F	22 10 ...	...	...	...			E	SS	57 25	...	...		
" 22	N,E	e(P)	17 22 24	...	...	9,770	Moderate. Epc: 64° 5' N., 145° 1' W. H=17h. 09m. 36s. G. M. T.		N,E	SeS	59 31	...	...		
	N,E	e	28 10	...	...	...			E	L	11 00 10	...	...		
	N,E	SKS	32 48	...	...	...			E	Mn	11 6 ...	11 20	...		
	N,E	S	33 08	...	...	...	Felt all over Central Alaska (J. S. A.)		N	Mn	11 6 ...	9 7	...		
	E	e	33 28	...	...	...			N,E	F	12 37	...	...		
	N,E	SS	38 43	...	...	...		" 2	E	i	16 06 13	...	...		
	E	Mn	18 4 ...	19	138	...			E	Mn	29	...	...		
	N	Mn	8 ...	17	161	...			N,E	F	17 14	...	...		
	N	F	21 19 ...	...	...	...		" 4-5	N,E	IP	23 40 47	...	2,750	Slight. Epc: 6° N., 94° 5' E. off N. Sumatra.	
" 23	N,E	e	20 48 30	...	...	...			N,E	IP	41 15	...	...		
	N	e	49 18	...	...	...			N,E	IS	45 12	...	...		
	E	e	53 ...	...	...	...			N,E	eSS	46 16	...	...		
	N,E	F	Lost in microseisms.						N,E	M	51 ...	16 11	...		
" 26	N	IP'	4 06 27	...	...	15,550	Slight. Epc: 18° 6' N., 95° 8' W. H=3h. 47m. 11s. h=75 km.	" 5	N,E	eP(?)	14 55 49	...	8,550	Slight. Preliminary confused by microseisms. Surface waves poor. Epc: 7° S., 149° E. (STRASBOURG).	
	E,N	i	06 35	...	...	...			E	IS	15 05 40	...	...		
	N	IPPP	10 03	...	...	...	Damage reported from cities along the Gulf coast of Mexico etc. (J.S.A.) h=100 km. (Kew).		N	eS	06 04	...	...		
	E	i	10 09	...	...	...			E	i	10 28	...	...		
	N	i	13 18	...	...	...			E	eL	21	...	...		
	E	Confused by microseisms.							E	F	16 30	...	...		
" 26	N	eP	20 7 06	...	...	6,655	Moderate. Epc: 37° N., 140° E. 40° N., 142° E. (U. S. C. G. S.)	" 8	E	eP(?)	5 9 ...	In minute mark.	2,920		
	E	iP	7 13	...	...	...			E	eP	5 9 33	...	...		
	N	i	7 29	...	...	...			E	e	12 41	...	...		
	E	iS	9 13	...	...	...			N,E	e	13 38	...	...		
	N,E	ePP	15 24	...	...	...			N,E	e	16 14	...	...		
	E	IS	15 31	...	...	...			E	M	16 ...	...	...		
	N	eS	16 01	...	...	...			E	M	17 ...	...	...		
	E	i	17 07	...	...	...			N,E	F	Lost in microseisms.				
	N,E	ScS?	19 31	...	...	...		" 9	E	No record between 9d. 1h. 2m. to 9d. 2h. 56m.					
	N,E	eSS	25 44	...	...	...		" 9	E	e	12 54 31	...	...		
	E	Mn	33 ...	24	52	...			E	e	56 23	...	...		
	N,E	F	21 22 ...	...	...	...			E	F	Lost in microseisms.				
" 30	E	e	14 18 ...	...	...	...		" 9	E	eP	14 49 54	...	6,850	Slight. Epc: 26° N., 140° E. near Bonin Islands.	
	E	F	15 21 ...	...	...	...			E	PP	52 21	...	...		
									E	eS	58 23	...	...		

TABLE D<sub>2</sub>—contd.

Date.	Compt.	Phase	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Compt.	Phase	G. M. T.	Period.	Amplitude	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.		
Aug. 9	E	SS	15 2 27	...	...	...		Aug. 20	E	Mn	33 30	18	214	...		
	E	SSS	4 22	...	...	...			N	Mn	33 ...	17	143	...		
	E	M	19 ...	...	...	...			N, E	F	15 45 ...	...	...	...		
	E	F	16 18 ...	...	...	...		,, 21	E	No record,	4h. 0m. to 19h. 16m.					
,, 11	N, E	iP	01 03 55	...	...	5,555	Moderate.		N	No record,	16h. 14m. to 22h. 47m.				Slight.	
	N, E	iPP	05 47	...	...	...	Maximum movement of amplitude 14mm after S. Epc : 6° S., 116°.5 E. to the West off Kangean Islands. O : oh. 55m. 52s. Depth = 620 km. (appr.)	,, 21-22	E	E	23 20 55	...	...	...	...	
	N, E	ePP	06 04	...	...	...			E	Mn	44 ...	...	...	...		
	N, E	esP	06 57	...	...	...			E	F	24 11 ...	...	...	...		
	N, E	ePcS	08 44	...	...	...										
	N	IS	10 13	...	...	...		,, 23	E	Mn	17 41 ...	...	...	...		
	E	IS	10 18	...	...	...										
	N, E	esS	13 39	...	...	...		,, 24	E	e	18 47 42	...	...	...		
	N, E	i	13 44	...	...	...			E	e	50 28?	...	...	...		
	N, E	SS?	14 20	...	...	...			N, E	Mn	19 49 ...	...	...	...		
	N, E	F	04 22 ...	...	...	...			E	F	21 8 ...	...	...	...		
,, 13	E	e	13 04 21	...	...	...		,, 24	E	e	21 19 ...	...	...	...		
	E	F	16 40 ...	...	...	...			E	Mn	50 ...	...	...	...		
,, 14	E	Mn	10 26 ...	...	...	...			E	F	22 15 ...	...	...	...		
	E	F	11 20 ...	...	...	...		,, 25	E	e	22 19 34	...	...	...		
,, 15	N, E	i(PPP)	4 37 24	...	...	...	Slight.		E	e	18 18 ...	...	...	...		
	E	e(S)	42 09	...	...	...	Epc: North China Sea.		E	Mn	30 ...	...	...	...		
	E	e(SSS)	45 27	...	...	...			E	F	23 00 ...	...	...	...		
	E	eL	48 25	...	...	...										
	E	M	59 ...	...	...	...		,, 25-26								
	E	F	7 44 ...	...	...	...										
,, 16	E	e(P)	11 40 59	...	...	2,110	Slight.		E	e	19 03 35	...	...	...		
	N, E	ePP	41 17	...	...	...	Epc: 30° N., 89° E. Tibet.		N	Mn	31 ...	...	...	...		
	N, E	eS	44 27	...	...	...			E	Mn	32 ...	...	...	...		
	E	Mn	48 ...	9	6	...		,, 28								
	N	Mn	50 ...	7	7	...										
	N, E	F	Lost in the next shock.					,, 29-30								
,, 15	E	Mn	12 57 ...	...	...	...	Slight. After shock of the preceding one.	,, 31	N, E	iP	14 20 19	...	...	2,535	Moderate, P in minute gap. Epc: 25° N., 96° E. Upper Burma. H = 14 h. 15 m 15 s	
	N	Mn	12 56 ...	...	...	...			N, E	iS	24 28	...	...	...		
	N, E	F	13 38 ...	...	...	...			N, E	i	26 19	...	...	...		
,, 17	E	Mn	13 52 ...	...	...	...			N	Mn	28 ...	6	35	...		
	N, E	F	14 55 ...	...	...	...			E	Mn	29 ...	7	16	...		
,, 20	N, E	iP	6 46 18	...	...	4,870	Slight. Epc: 24° S., 71° E. Indian Ocean. H = 6h. 38m 21s.	Sept. 1	N, E	F	16 20 ...	...	...	...		
	N, E	ePP	47 56	...	...	...			E	e(P)	8 53 54	...	...	12,800	Slight. Epc: 81° S. 179° W. (U. S. C. G. S.)	
	N, E	IS	52 56	...	...	...			E	e(P')	57 03	...	...	...		
	N, E	IS	55 28	...	...	...			N, E	e	9 00 18	...	...	...		
	N, E	L	56 35	...	...	...			N, E	e(SKS)	04 23	...	...	...		
	E	Mn	7 02 ...	13	6	...			N, E	i(PS)	08 03	...	...	...		
	N	Mn	02 ...	...	...	...			N, E	e	09 38	...	...	...		
	N, E	F	9 15 ...	...	...	...			N, E	e	14 25	...	...	...		
,, 20	E	eP	12 07 49	...	...	5,165	Great. P(N) confus- ed by some shift of Zero. Destructive in Manila. Epc: 17° N., 122° E. (U.S.C.G.S.) 14° 10' N., 122° 05' E. H = 11h. 59m. 13s. (Manila).			E	e(L)	38 38	...	...	...	
	E	iP	07 57	...	...	...			N	M	46 ...	...	...	...		
	N, E	IS	14 43	...	...	...			E	Mn	51 ...	15	5	...		
	N, E	SS	17 38	...	...	...			N, E	F	12 6 ...	...	...	...		

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
			H. M. S.	Sec.	μ	Km.					H. M. S.	Sec.	μ	Km.	
1937								1937							
Sept. 1	E	Mn	18 24 ...	...	...	...		Sept. 15	E	iS	51 32 ...	...	...	...	
	E	F	44 ...	...	...	...			E	ePS	52 29 ...	...	...	...	
" 1	E	e	22 32 58	...	...	...		" 16	N,E	i(P <sub>1</sub> )	0 8 22 ...	...	...	15,830	△ from PP—P <sub>1</sub>
	N	Mn	47 ...	...	...	...			N,E	c(PP)	11 33 ...	...	...		Epc : 14°N., 92°W. H=23h. 48m. 52s. (U. S. C. G. S.)
	E	Mn	52 ...	...	...	...			N,E	e(SKKS)	18 23 ...	...	...		14°N., 91°W. (Strasbourg).
" 2	N,E	F	23 43 ...	...	...	...			N,E	e(PSKS)	21 45 ...	...	...		
	E	e	12 32 37	...	...	...			N,E	F	2 15 ...	...	...		
	E	F	13 07 ...	...	...	...									
" 3	N,E	e	19 00 53	...	(9,635)	Moderate. Epc : 52°.5 N., 177°.5 W.	" 17	N,E	e	9 49 21 ...	...	...			
	N,E	iP	00 57	...	...	Aleutian Islands. H=18h. 48m. 29s.		N,E	e	55 43 ...	...	...			
	N,E	i	01 05	...	...	H=160—180 km. (J. S. A.)		N,E	e	59 10 ...	...	...			
	N,E	i	01 48	...	...			E	F	12 13 ...	...	...			
	N,E	e	04 25	In minute gap			" 21								
	N,L	e	06 25	In minute gap			" 21								
	N,E	e	11 02	...	...		" 21	E	iP	7 52 36 ...	...	...		Slight. Epc : 21°N., 104°E. Deep ?	
	N,E	iSKS	11 09	...	...			E	e	53 13 ...	...	...			
	N,E	i	11 30	...	...			E	e	57 11 ...	...	...			
	N,E	i	11 57	...	...			E	iS	57 36 ...	...	...			
	N,E	i	12 25	In minute gap.				E	e	58 0 ...	...	...			
	N,E	i	14 07	...	...			E	SS	59 29 ...	...	...			
	N,E	e	16 55	...	...		" 21	E	F	8 58 00 ...	...	...			
	N,E	e(G)	24 53	...	...			E	eP	9 49 16 ...	...	...			
	N,E	F	23 12 ...	...	...			E	e	49 50 ...	...	...			
" 4	N							" 21	E	e	56 57 ...	...	...		
	N								E	IS?	57 23 ...	...	...		
	E								E	iScS	59 05 ...	...	...		
									E	F	12 55 ...	...	...		
" 8	N,E	eP <sub>1</sub>	0 59 05	...	14,510	Slight. Epc : South Atlantic, in the neighbourhood of Cape Horn. H=Oh. 40. Im. (U. S. C. G. S.)	" 22	E	e(P)	3 19 26 ...	...	...			
	N,E	ePP	01 01 01	...	...		" 22	N,E	e(S)	27 02 ...	...	...			Slight. Epc : 12°.3 N., 124°.3 E. Felt in Eastern Visayas (Manila).
	N,E	iSKS	06 36	...	...			N,E	F	4 33 ...	...	...			
	N,E	iSKKS	08 16	...	...		" 23	N,E	iP	13 18 26 ...	...	9,800	Maximum move- ment after SKS		
	N,E	eS	09 21	...	...			N,E	i	18 58 ...	...	...			
	N,E	i	09 56	...	...			N,E	e	19 26 ...	...	...			
	N,E	ePS	11 42	...	...			N,E	ePP	21 29 ...	...	...			
	N,E	i	14 26	...	...			N,E	isKS	28 49 ...	...				
	N,E	eSS	18 36	...	...			N,E	PS	29 40 ...	...	...			
	N,E	e	25 13	...	...			N,E	SS	34 31 ...	...	...			
	N,E	F				Lost in changing chart.		N,E	i	41 01 ...	...	...			
" 9	N,E	e	17 39 38	...	...			N,E	F	18 07 ...	...	...			
	N,E	e	42 53	...	...										
	N,E	F	56 00	...	...										
" 10	N,E	iP	23 42 13	...	2,345	Slight. Epc : 27°N. 94°E. Assam. Felt strongly at Dibrugarh and moderately at Gauhati, Tezpur, Salona and Shillong.	" 26	N,E	e	23 32 53 ...	...	...			
	N,E	ePP	42 35	(In minute gap)			" 26	N,E	e	47 ...	...	...			
	N,E	eS	46 06	...	...										
	N	M	48 41	...	...										
	N	F	24 20 ...	...	...										
" 15	E	iP	12 40 36	...	10,030	Slight. Epc : 9°S., 161°E. Solomon Islands. H=12h. 27m. 37s.	" 27	N	IP	9 03 36 ...	...	4,955	Moderate, Epc : 7°S., 110°E. (Strasbourg). Central Java.		
	E	ePP	44 14	...	...			N	e	10 09 ...	...	...			
	E	i	51 00	...	...			N	IS	10 18 ...	...	...			

TABLE D<sub>2</sub>—*contd.*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Comdt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.		H. M. S.	Sec.	μ	Km.		
Sept. 27	N	eSS	13 09	...	...	...			N,E	IS*	30 08	...	...	...	Lahore and Roorkee moderately in Jullundur, Simla and Srinagar and feebly in New Delhi Epc : 30°.0N. 78°.2E. near Dehra Dun, O = 1h. 24m. 00s M lost in E-W compt. due to fading of light.
	N	No Record from 9h 13m 40s to 11h 00m							N	I	30 23	...	...	...	
	N	F	13 00 00	...	...	...			N,E	I	31 31	...	...	...	
" 28	N	e	6 40 26	...	...	...			N,E	M	31 46	8	91	...	
	N,E	Mn	7 51 ...	...	...	...			N,E	F	2 21 ...	...	...	...	
	N,E	F	9 58 ...	...	...	...		Oct. 22	N,E	e(P)	16 20 36	...	...	...	Feeble.
" 30	N	e	21 59 36	...	...	...			N,E	e(S)	25 36	...	...	...	Epc : 0°.5 N., 96°.0 E., West off Sumatra. H = 16h. 14m. 5.
	N,E	Mn	22 47 ...	...	...	...			N,E	Mn	28 ...	...	...	...	
	N,E	F	23 05 ...	...	...	...			N,E	F	17 30 ...	...	...	...	
Oct. 1	N	e	15 22 08	...	...	...	Feeble.	" 23	E	Mn	18 00 ...	...	...	...	Feeble.
		Mn	42 ...	...	...	...			N	Mn	05 ...	...	...	...	
		F	16 16 ...	...	...	...			N,E	F	43 ...	...	...	...	
" 1	N,E	e	19 42 12	...	...	...	Feeble.	" 24	N,E	e	11 53 03	...	...	...	Feeble. Surface. Waves poor.
	N	Mn	20 40 ...	...	...	...			N,E	e	59 44	...	...	...	
	N	F	22 10 ...	...	...	...			N,E	F	13 15 ...	...	...	...	
" 4	N	e	4 15 10	...	...	...	Feeble.	" 25	N,E	e	7 39 26	...	...	...	Feeble.
	N,E	e	17 26	...	...	...			N	Mn	8 08 ...	...	...	...	
	N,E	F	5 30 ...	...	...	...			E	Mn	10 ...	...	...	...	
" 5	N,E	e	7 20 ...	...	...	...	Feeble.		N,E	F	58 ...	...	...	...	
	N	Mn	49 ...	...	...	...		" 25	E	Mn	11 39 ...	...	...	...	Feeble.
	N	F	8 57 ...	...	...	...			N	Mn	45 ...	...	...	...	
" 6	N,E	e	10 36 47	...	...	...	Slight, Near.	" 25-26	N,E	i	23 31 58	...	...	...	Feeble.
	N	e	40 53	...	...	...			N,E	e	41 13	...	...	...	
	N,E	F	11 51 ...	...	...	...			N,E	F	12 18 ...	...	...	...	
" 6	N;E	iP	17 17 19	...	...	9200	Slight, Deep ? Epc : 10°S., 150°E. New Guinea (Strasbourg).		N	Mn	00 00 ...	...	...	2050	Slight. Felt at Dros Lahore, Cherat, Peshawar, Srinagar, and Kabul. Epc : 37° N., 70°.5E., O = 7h. 26m. 30s. h = 250-300km. 39°N., 69°E. Turkestan (Strasbourg).
	N,E	i	18 04	...	...	...			E	Mn	05 ...	...	...	...	
	N,E	i	20 52	...	...	...			N,E	F	00 45 ...	...	...	...	
	N;E	iS?	27 39	...	...	...		" 29	N	Record lost from 5h 37m to 7h 49m.					
	N;E	i	28 17	...	...	...			E	iP	7 30 31	...	...	2050	
	N,E	F	20 45 ...	...	...	...			E	i(pP)	31 21	...	...	...	
" 7	N	e	8 17 20	...	...	...			E	e(sP)	31 43	...	...	...	
	N	F	lost in microseisms	...					E	iS	33 40	...	...	...	
" 9	N	e	18 21 19	...	...	...			E	i	34 48	...	...	...	
	N	F	49 ...	...	...	...			E	F	8 45 ...	...	...	...	
" 11	N,E	e	22 38 52	...	...	...	Felt strongly in Shillong.	" 30	N,E	Mn	20 34 ...	...	...	...	Probably seismic.
	N,E	F	23 35 ...	...	...	...			N,E	F	50 ...	...	...	...	
" 12	N,E	e	21 10 19	...	...	...	Slight. Two shocks superposed ?	Nov. 2	N,E	e	11 07 22	...	...	...	Feeble.
	N,E	F	23 06 ...	...	...	...			N,E	F	12 41 ...	...	...	...	
" 17	N;E	iP	4 57 23	...	...	6745	Slight. Large Waves poor in E. Epc : 35°.7 N., 141°.0 E. Inubosaki (Strasbourg).	" 2	N,E	e	16 13 ...	...	...	...	
	N,E	iS	5 05 44	...	...	...			N,E	eP	19 11 27	...	...	1890	Slight. Epc : 36°.8N. 73°.5E. Hindukush. Felt strongly at Srinagar, Gurez and Dros.
	N	M	27 ...	15	5	...			N,E	e	14 15	...	...	...	
	N;E	F	7 00 00	...	...	...			N,E	eS	14 43	...	...	...	
" 20	N;E	iP	1 26 53	...	...	1355	Moderate. Felt very strongly in Dehra Dun and Ambala strongly in Mussoorie.		N,E	e(L)	16 01	...	...	...	
	N;E	e	26 19	...	...	...			N	Mn ?	17 42	...	...	...	
	N;E	iS	29 09	...	...	...			N,E	F	54 ...	...	...	...	

TABLE D<sub>2</sub>—*contd.*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Nov. 11	N,E	eP	0 4 10	...	...	1210	Slight. Epc : 22°.5N., 62°E, north Arabian Sea. H=Oh. 01m. 30s.	Nov. 18	N		No record from 11h 55m to 11d 3h 00m.				
	N,E	eS	7 23	...	...	...			E		No record from 3h 05m to 14h 02m.				
	N,E	Mn	11 00	...	...	...									
	N,E	F	1 33	...	...	...		,, 18	N,E	e	3 00 15	...	...	...	
" 12	N,E	e(P)	14 43 19	...	...	1670	Slight. Epc : 33° N., 77°.5E. H=14h. 39m. 50s.		N	e	09 39	...	...	...	
	N,E	e(S)	46 05	...	...	...			N	F	4 22	...	...	...	
	N,E	F	15 12	...	...	...		,, 19	N,E	e	22 15 12	...	...	Feeble.	
" 12	N,E	e	17 29 10	...	...	...	Feeble.		N,E	e	19 10	...	...		
	N,E	F	50	...	...	...			N,E	F	23 7	...	...	Feeble.	
" 13	N,E	e	10 10 13	...	...	...	Slight, distant.	,, 20	N,E	e	17 11	...	...		
	E	e	12 43	...	...	...			N,E	e	14 04 31	...	...		
	N,E	e	16 04	...	...	...			N,E	F	14 47	...	...		
	N,E	F	Masked in the beginning of the next shock.						N,E	F	16 15	...	...		
" 13	N,E	eP	11 54 58	...	...	2150	Slight. Epc : 38°N., 70°.5E.	,, 24	E	e	2 53 30	...	...		
	N,E	eS ?	58 35	...	...	...			N,E	F	4 08	...	...		
	N,E	F	12 41	...	...	...		,, 24-25	E		No record from 8h 00m to 25d 3h 24m.				
" 13	N,E	Mn	19 01	...	...	...		,, 25	N	e	01 01 07	...	...		
	N,E	F	50	...	...	...			N	F	Lost in shifting of charts.				
" 14	N,E	iP	11 02 05	...	...	2,070	Great. Damage to buildings in Chitral and Kashmir. Felt very strongly in the N. W. Frontier, Kashmir and the North Punjab and moderately in the South Punjab and parts of U. P. Epc: 37°.3N., 72°.3E. North of the Hindu Kush (tentative). h=200 km. O=10h. 58m. 05s. 38°.5N., 70°.5E. h=220 km. (Strasbourg). 35°.2N., 72°.8E. h=250 km. H=10h. 58m. 12s. (J. S. A.)	,, 25	N,E	e	5 07 16	...	...	...	
		sP	03 06	...	...	...			N,E	F	8 05	...	...		
		IS	05 21	...	...	...									
		F	14 16	...	...	...		,, 26	N	cP	10 53 43	...	...	5,010	
									E	iP	54 02	...	...		
									N	e	55 52	...	...		
									E	i					
									N,E	IS	11 00 28	...	...		
									N,E	i	04	...	...		
									N,E	F	12 10	...	...		
" 15	E	No record from 3h 40m to 15h 48m.						,, 27	N,E	e	13 57	...	...	Feeble.	
	N,E	iP	21 41 19	...	...	1,710	Moderate. Epc: 34°.5N., 77°.5E east Kashmir. O=21h. 37m. 34s.		N,E	Mn	14 35	...	...		
	N	eS	44 19	...	...	...	O=21h. 37m. 34s. Felt fairly strongly at Srinagar.		N,E	F	15 55	...	...		
	E	IS													
	N,E	i	46 10	...	...	...	Phu Lien eP=21h. 43m. 22s.	,, 28	N,E	iP	5 30 22	...	...	3,535	
	N	Mn	47 46	...	...	...	Helwan iP=21h. 44m. 58s.		N,E	IP	31 27	...	...	Moderate. Epc : 22°.8S., 96°.6E. off West Sumatra.	
	E	Mn					De Bilt P=21h. 46m. 47s.		N,E	eS	33 32	...	...	0=5 h 24 m 00s.	
	N,E	F	23 55	...	...	...	Strasbourg iP=21h. 46m. 39s.		N,E	SS	37 17	...	...	Strasbourg △ (PPP- P)=91°.3	
" 16	N,E	e	5 35 31	...	...	...	Feeble.		N,E	L	39 24	...	...		
	N,E	F	6 02	...	...	...			E	M	44	...	15	66	
" 16	N,E	e	13 53	...	...	...	Feeble. Felt feebly at Drosb.		N	M	48	...	...	Christ Church (S-P)=78°.	
	N,E	F	14 07	...	...	...			N,E	F	9 14	...	...		
" 16	N,E	e	22 38	...	...	...	Feeble.	,, 30	N,E	e	00 44 26	...	...	2,465	
	N	Mn	45	...	...	...			N,E	iP	45 24	...	...	Moderate. Epc : 5°N., 89°E. South Bay of Bengal	
	E	Mn	46	...	...	...			N,E	IP	45 35	...	...	5°N., 90°E. H-O=Oh. 40.5m. (Strasbourg).	
	N,E	F	23 7	...	...	...			N,E	IS	49 27	...	...		
									N,E	ISS	49 45	...	...		

TABLE D<sub>2</sub>—*contd.*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Nov. 30	N,E	L	51 25	...	...	...		Dec. 10	E	e	19 45 41	...	...	...	Feeble.
	E	M	53 ?	20	...	...			E	F	20 11	...	...	...	
	E	M	55 ...	13	64	...		,, 12	E	e	8 18 8	...	...	...	Mostly surface waves.
	N	M	55 ...	14	74	...			N,E	e	26 22	...	...	...	
	N,E	F	03 25	...	...	...			E	Mn	9 07 ...	11	4	...	
,, 30	N	eP	13 05 08	...	...	4,090	Moderate. Epc : 6°5 N., 37°5 E. in Abyssinia. H=12h. 57'9m.	,, 13	E	eP	19 2 19	...	...	4890	Moderate. Epc, 24°N. 121°E.
	E	iP	06 28	...	...	...	Strasbourg △ (S-P)= =49°6		N	eP	02 23	...	...	...	23°N., 120°E South of Formosa (Strasbourg).
	N,E	PP	11 01	...	...	...	Ksara △ (S-P)= 29°5		N, E	e(P)	04 11	...	...	...	South of Formosa (Strasbourg). Felt in all Formosa. (Manila),
	N,E	SS	13 10	...	...	...	Bucarest △ (S-P)		N, E	iS	08 57	...	...	...	
	N,E	L	15 17	...	...	...	=39°0		N, E	eSS	12 04	...	...	...	
	N	M	18 29	15	29	...	Beograd △ (S-P)		N, E	L	14 56	...	...	...	
	E	M	19 ...	17	37	...	=41°6		E	Mn	26 ...	17	124	...	
	N,E	F	15 20	...	...	...	Trieste △ (S-P)		N, E	F	22 43	...	...	...	
							=44°3							Feeble.	
							Stuttgart △ (S-P)								
							=48°5								
							Helwan △ (P-H)								
							=21°9								
							Cape Town △ (S-P)								
							=42°1								
							7°5 N., 45°E.								
							h=100 km. (Strasbourg).								
								,, 16	N					Lines overlapping and phases unidentifiable.	
Dec. 5	E	e	15 38 16	...	...	...	Feeble.	,, 16	E	e	08 29 16	...	...	...	Feeble.
	N,E	e	43 58	...	...	...			E	e	37 17	...	...	...	Large waves.
	N,E	e	49 13	...	...	...			E	e	44 13	...	...	...	
	N,E	e	16 23 0	...	...	...			E	F	09 55	...	...	...	
	N,E	F	18 05	...	...	...								N—Record lost from 9h 10m to 11h 2m, and 17h 38m to 18h 40m.	
,, 6	N,E	eP	4 44 44	...	...	6,850	Slight. Epc : Near Bonin Island.	,, 16	E	e	17 47	...	...	...	Feeble.
	N,E	eS	53 13	...	...	...			E	e	50 41	...	...	...	Epc : 36°4 N., 21°O E. Near Athens. (Strasbourg).
	N,E	SS	57 07	...	...	...			E	e	53 57	...	...	...	
	N	Mn	5 13 35	15	7	...			E	F					Lost in the next shock.
	E	Mn	19 18	15	5	...		,, 16	E	e	18 34 06	...	...	...	Feeble.
	N,E	F	7 00	...	...	...			N, E	e	41 36	...	...	...	
									N, E	F	19 53	...	...	...	
,, 8	N,E	eP	8 40 30	...	...	4,950	Moderate. Epc : 25°N., 120°E. H=8h. 32m. 17s. 26°N., 119°E.	,, 17	N, E	e	04 34 30	...	...	...	Slight.
	N,E	ePP	42 29	...	...	...	H.O. = 8h. 32'4m. (U. S. C. G. S.)		N, E	e	41 00	(In minute eclipse).			
	N,E	iS	47 11	...	...	...			E	Mn	52 30	12	4	...	
	N,E	SS	50 24	...	...	...			N, E	F	06 24	...	...	...	
	N,E	L	54 14	...	...	...									
	E	Mn	9 03 24	15	75	...		,, 17	E	e	08 35	...	(Large waves).	Feeble.	
	N	Mn	04 40	12	33	...				F	09 18	...	...	...	
	N,E	F	12 11	...	...	...									
,, 8	N,E	e(P)	20 47 4	...	...	...	Feeble. Epc : Probably in the neighbourhood of the previous shock.	,, 17	E	iP	09 40 33	...	...	4950	Moderate. Epc : Same as Dec. 8d 8h 40m.
	N,E	e(S)	53 50	...	...	...			N	eP	42 00	...	...	...	
	N,E	F	22 15	...	...	...			N, E	ePP	42 25	...	...	...	
,, 10	N,E	eP	13 39 20	...	...	6,845	Slight.		N, E	ePeP	42 25	...	...	...	
	E	ePP	41 40	...	...	...			N, E	iS	47 14	...	...	...	
	N,E	S	47 49	...	...	...			N, E	eSS	50 28	...	...	...	
	E	e	48 44	...	...	...			N, E	eScS	50 38	...	...	...	
	E	Mn	14 11 22	11	8	...			E	i(G)	50 58	(In minute eclipse).			
	E	F	16 34	...	...	...			N, E	eL	54 20	...	...	...	

TABLE D<sub>2</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.
1937.			H. M. S. Sec	μ	Km.			1937.			H. M. S. Sec	μ	Km.		
Dec. 17	N	e	57 58	(In minute gap.)				Dec. 23	N, E	e	29 ...	...	...		
	N	Mn	10 00 00	15	21	...			E	Mn	46 32	21	174	...	
	E	Mn	03 21	11	31	...			N	Mn	49 00	21	187	...	
,, 17	N, E	F	13 08 ...	...	...	...	Large waves.	,, 24	N, E	F	17 20 ...	...	...		
	E	Mn	53 14	...	...	...			N, E	e	6 40 31	...	...	Feeble 10°S., 76°W (U. S. C. G. S.)	
	N, E	F	20 20 ...	...	...	...			N, E	e	44 03	...	...		
,, 18	N	iP	13 23 11	...	2,500	Moderate Epc : 42°O N. 71° 6 E, O=13h. 18m.05			N, E	Mn	7 03 06	...	...		
	E	eP				Bucarest △ (P-O) ≈32°7'			E	Mn	32 29	...	...		
	N	iPP	23 36	...	...	Beograd △ (P-O) ≈36.3		,, 25	E	1	47 12	19	35		
	E	ePP				Tierste △ (P-O) ≈39.°9			N, E	Mn	9 29 ...	...	...		
	N, E	IS	27 17	...	...	Stuttgart △ (P-O) ≈42.°5			E	e	1 20 00	...	...	Feeble.	
	N, E	eSS	27 51	...	...	Kew △ (P-O)=47°6			N, E	e	20 12	...	...		
	N, E	L	29 17	...	...				N, E	e	22 24	...	...		
	N	Mn	33 15	10	38				N, E	e	28 13	...	...		
	E	Mn	33 15	11	44				N, E	e	41 01	...	...		
	N, E	F	15 30 ...	...	...				N, E	F	Lost in shifting charts.				
,, 20	N, E	eP	05 02 40	...	1,380	Slight. Epc : 29° N., 181° E. Western border of Nepal. O=4h 59m 50s.		,, 25	E	e	10 04 17	...	...	Feeble.	
	N, E	eS	04 59	...	...				N, E	e	11 13	...	...		
	N, E	Sg	16 14	...	...				N, E	e	21 04	...	...		
	E	Mn	06 35	...	...				N, E	F	11 15 ...	...	...		
	N	Mn	06 40	...	...				,, 25	N, E	e	21 29 12	...	...	Feeble.
	N, E	F	06 00 ...	...	...				N, E	e	46 03	...	...		
,, 21	E		No record from 18h 50m to 19h 40m.						N, E	Mn	22 18 ...	...	...		
,, 22	N	e	03 57 15	...	...	Slight.			N, E	Mn	20 ...	...	...		
	N, E	i	04 00 20	...	...	Epc : 17° N., 106° W. H. O = 3h. 37m. 17s (U. S. C. G. S.)		,, 27	E	Mn	23 36 ...	...	...	Feeble.	
						Epc : 17° N., 105.°7 W H = 3h 37m 15s (J. S. A.)			E	F	1 15 ...	...	...		
									E	F	42 ...	...	...		
									,, 28	E	e	3 19 37	...	...	In hourly break. N—record lost.
									E	i	27 30 ...	...	...		
									E	F	Lost in shifting.				
	N	Mn	05 05 ...	...	...			,, 28	E	eP	6 33 24	...	...	11220	
	E	Mn	05 45	...	...				N, E	iPP	37 26	...	...	...	
	N, E	F	06 34 ...	...	...				N, E	iSKS	44 00	...	...		
,, 23	N, E	iP <sub>1</sub>	13 37 32	...	16,000	Great. △ from PP-P <sub>1</sub> Epc : 17°5 N., 97°			N, E	iS	44 42	...	...		
	N, E	e	38 56	...	...	5 W. H. O = 13h. 17m 56s. (Strasbourg).			N, E	PS	46 30	...	...		
	N, E	iPP	40 33	...	...	destructive in Mexico.			E	PPS	47 24	...	...		
	N, E	iPPP	43 56	(In minute mark).					E	SS	52 07	...	...		
	N, E	SKS	44 56	( , , )					E	L	7 10 ...	...	...		
	N, E	iSKKS	46 56	( , , )					E	Mn	24 ... 15	7	...		
	N, E	SKSP	50 41	...	...				N	Mn	27 ...	...	...		
	N, E	PPS	53 13	...	...				N, E	F	9 43 ...	...	...		
	N, E	SS	59 56	(In minute mark).					,, 31	N, E	E	18 01 5	...	...	Feeble.. Epc : 15°N 98°W. (U. S. C. G. S.)
	N, E	(ScSScS)	14 01 32	...	...				N, E	Mn	19 8 ...	...	...		
									N, E	F	20 35 ...	...	...		

K. R. RAMANATHAN,

Meteorologist, Colaba Observatory Bombay,

## STATION—ALIPORE OBSERVATORY, CALCUTTA.

Lat.  $22^{\circ} 32'$  Long.  $88^{\circ} 20'$  Height above M. S. L. 7·1 metres (for Milne-Shaw).

6 metres (for Omori-Ewing).

Lithologic Foundation: Alluvial.

Instrument:—(1) Milne-Shaw Seismograph North-South (N) component;

(2) Omori-Ewing Seismographs, North-South (N) and

(3) East-West (E) components.

## INSTRUMENTAL CONSTANTS.

Component.	Steady mass. (Kg.)	T. (sec.).	Vm	$\epsilon$	Paper speed (mm/min.)
(1) N	0·45	12	250	20 : 1	8
(2) N	50	28	32	1	25·4
(3) E	50	28	30	1	25·4

TABLE D. 3.

Date.	Compt.	Phase	G. M. T.	Period.	Ampli-tude.	$\Delta$	Remarks.	Date.	Compt.	Phase	G. M. T.	Period.	Ampli-tude.	$\Delta$	Remarks.
1937.			H. M. S.	Sec.	$\mu$	Km.		1937.			H. M. S.	Sec.	$\mu$	Km.	
Jan. 2-3	N	e	23 39 19	...	...	...	Tremor.		SR <sub>1</sub>	55 4	...	...	...	...	
		F	0 12 ...	...	...	...			L	57 45	...	...	...	...	
" 4	N	e	20 26 13	...	...	...	Tremor.		M	22 1 29	...	...	...	...	
		e	31 17 ...	...	...	...			Mn	9 44	12	36	...	...	
		F	53 ...	...	...	...			F	23 37 ...	...	...	...	...	
" 4	N	e	22 57 9	...	...	...	Confused by micro-seisms.	Jan. 7	N	P	6 20 48	...	...	5230	Slight, Epc: 35° N, 141° E. Japan.
		i	2 5 6 ...	...	...	...			PR <sub>1</sub>	23 14	...	...	...	...	
		i	5 28 ...	...	...	...			S	27 44	...	...	...	...	
" 5	N	e	0 4 20	...	...	...	Confused by micro-seisms. Epc: 4° S., 135° E. Northwest New Guinea.		L	35 3	...	...	...	...	
		IS	11 46	Large movement					Mn	43 33	15	14	...	...	
		i	13 46 ...	...	...	...			F	...	...	...	...	...	Lost in congestion of lines.
		L	17 29 ...	...	...	...									
" 5	N	P	(?) ...	...	5680		Slight.	" 7	N; E	P	13 24 14	...	...	1710	Very great. E pc: 35° O N; 96·5 E. in China. 35·5 N. 97·5 E. (U. S. C. G. S.), 36·1 N. 98·6 E. (J.S. A·8) Data taken from Omori Ewing Seismographs. O: 13h. 20m. 42s.
		IS	5 3 27	Large movement			Epc. Near N.W. New Guinea.		N, E	S	27 13	...	...	...	
		L	11 42 ...	...	...	...									
		F	6 4 ...	...	...	...									
" 5	N	e (?)	11 16 49	...	4350		Confused by micro-seisms. Slight.	" 8	N	e	16 25 51	...	...	...	Tremor.
		IS	... 22 58	Large movement			Epc. North Liu Kiu Islands (Chiufeng).		F	17 23	...	...	...	...	
		L	... 20 20 ...	...	...	...									
		F	Lost in congestion of lines.												
" 5	N	e (?)	16 57 54	...	...	...	Slight; Near.	" 3	N	e	17 31 41	...	...	...	Slight, Near.
		i	59 29 ...	...	...	...			f	33 30	...	...	...	...	
		i	17 0 29 ...	...	...	...			F	43	...	...	...	...	
		F	29 ...	...	...	...									
" 5	N	eP (?)	21 45 27	...	4345		Slight. P uncertain due to microseisms. $\Delta$ from (S-H) Epc: 31 N; 132° E. Off South Japan.	" 12	N	e	5 45 57	...	...	...	Slight.
		e	47 14 ...	...	...	...			i	47 18	...	...	...	...	
		s	51 37 ...	...	...	...			i	47 45	...	...	...	...	
									M	48 38	...	...	...	...	
									F	6 10 ...	...	...	...	...	

N. B.—Unless otherwise stated "N" in the compt. column means Milne-Shaw "N-S" compt.

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Jan. 12	N	i	19 40 34	...	...	...	Tremor.	Jan. 25		M	18 30	18	76	...	
		F	46 ...	...	...	...				Mn	21 0	18	86	...	
" 14	N	e	14 21 9	...	...	...	Tremor.	" 27	N	e	0 44 35	...	...	...	Lost in congestion of lines.
		F	32 ...	...	...	...			i	54 40	...	...	...	Tremor.	
" 15	N	e	5 20 38	...	...	...	Slight; Distant.	" 28	N	e	15 10 18	...	...	...	Lost in microseism
		i	25 14	...	...	...			Mn	17 5	...	...	...	Tremor.	
		e	27 37	...	...	...			F	15 28 ...	...	...	...		
		F	6 4 ...	...	...	...									
" 16	N	e	13 17 38	...	...	...	Slight, very near. Felt at Shillong, Tezpur, Salona, Gauhati, Naya Dumka.	" 29	N	e	14 18 27	...	...	...	Tremor.
		i	18 20	...	...	...			i	21 28	...	...	...		
		F	— Submerged in the following shock.						F	48 ...	...	...	...		
" 16	N	P*	13 19 22	...	...	890	Slight. Phases not definite due to microseisms.	" 29	N	e	17 34 48	...	...	...	Slight. In the region of Marianne Islands.
		Pg	19 44	...	...	...			i	42 8	...	...	...		
		S	20 37	...	...	...			i	44 33	...	...	...		
		S*	21 7	...	...	...			F	18 40 ...	...	...	...		
		L	21 9	...	...	...		" 29	N	e	21 28 50	...	...	...	Tremor.
		F	49 ...	...	...	...			F	52 ...	...	...	...		
" 16	N	e(SR <sub>1</sub> ?)	19 24 8	...	...	...	Slight.	" 30	N	e	1 34 46	...	...	...	Tremor.
		i(L?)	24 56	...	...	...			Mn	41 10	...	...	...		
		F	49 ...	...	...	...			F	...	...	...	...	Lost in microseisms.	
" 19	N	e	4 18 33	...	...	...	Feeble.	" 30	N	e	5 44 13	...	...	...	Tremor.
		e	20 34	...	...	...			Mn	57 37	...	...	...		
		F	38 ...	...	...	...			F	...	...	...	...	Lost in microseisms.	
" 19	N	e	13 36 35	...	...	...	Feeble.	" 30	N	e	6 43 40	...	...	...	Tremor.
		e	41 56	...	...	...			F	...	...	...	...	Lost in congestion of lines.	
		e	43 21	...	...	...		" 31	N	e(S?)	23 57 33	...	...	...	Slight.
		F	58 ...	...	...	...			i(L?)	59 9	...	...	...		
" 20	N	e	0 11 46	...	...	...	Feeble.	" 31	N	F	...	...	...	...	Lost in microseisms.
		i	19 14	...	...	...		Feb. 1	N	e(?)	20 46 38	...	...	...	Feeble.
		F	...	...	...	...	Lost in microseisms.		M	21 35 45	...	...	...		
" 22	N	i	4 45 28	...	...	...	Slight. Distant.		F	22 2 ...	...	...	...		There was a shock between 7h. to 13h. on the 1st but phases and times are not readable due to congestion of lines.
" 23	N	eP	11 7 15	...	...	7810	Moderate. Near Caroline Islands?	" 2	N	i	16 21 18	...	...	...	Feeble.
		PR <sub>1</sub>	9 55	...	...	...			i	27 55	...	...	...		
		S	16 31	...	...	...			F	17 9 ...	...	...	...		
		PS	17 4	...	...	...		" 5	N	eP(?)	11 50 11	...	...	870?	Slight.
		L	29 52	...	...	...	Lost in Congestion of lines.		S	51 48	...	...	...		
		F	...	...	...	...			e	52 16	...	...	...		
" 24	N	e	16 49 56	...	...	...	Tremor.		F	12 26 ...	...	...	...		
		F	...	...	...	...	Lost in microseisms.	" 6	N	e	20 6 25	...	...	...	Slight.
" 25	N	P	6 46 19	...	...	8900	Moderate. Δ from SR <sub>1</sub> — P. Epc: 10°.6 S., 163°.3 E. (J. S. A.).	" 12	N	i	7 38	...	...	...	
		S	56 15	...	...	...			F	25 ...	...	...	...		
		SR <sub>1</sub>	7 1 24	...	...	...	12°S., 164°E. (U. S. C. G. S.)								Slight.
		L	11 20	...	...	...									Mixed up with the next quake.

TABLE D<sub>3</sub>—contd

Date	Compt.	Phase.	G. M. T.	Period.	Ampli-tude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Ampli-tude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec	μ	Km.	
Feb. 12	N	P	5 37 10	...	...	1850	Slight. Epc: Gobi desert.	Feb. 22	PS		11 34	...	...	...	
		S	40 23	...	...	...			eL		19 52	...	...	...	
		L	42 5	...	...	...			F						Lost in the following tremor.
		Mn	44 15	10	43	...				e	4 49 40	...	...	...	
		F	Lost in microseisms.			...			i	57 15	...	...	...		Slight.
.. 12	N	e	10 39 57	...	...	...	Tremor.		i	57 50	...	...	...		
		F	Lost in microseisms.			...			F						Lost in microseisms
.. 13	N	IS(?)	11 7 47	...	...	...			eP	13 33 32	...	...	...	5,900	Slight.
		L	8 38	...	...	...			S	41 7	...	...	...		
		M	9 30	...	...	...			PS	41 40	...	...	...		
		F	Lost in microseisms.			...			eL	49 54	...	...	...		
.. 14	N	e	20 1 59	...	...	...	Slight.		F						Lost in microseisms
		i	5 56	...	...	...									
		F	19	...	...	...									
.. 15	N	e	0 14 44	...	...	...	Tremor.								
		F	23	...	...	...									
.. 15	N	e(?)	1 32 17	...	...	...	Slight.			i	0 57 45	...	...	6.490	Slight.
		IS(?)	34 52	...	...	...				1	59 59	...	...		
		e	35 15	...	...	...				M	22 53	...	...		
		e	35 39	...	...	...				Mn	28 39	16	32	...	
		Mn	37 29	10	20	...			F						Lost in microseisms
		F	Lost in microseisms.			...									
.. 17	N	IS	9 32 50	...	...	...	Slight. Epc: 45°N., 151°E. (Chufeng).								
		Mn	54 52	...	...	...									
		F	10 49	...	...	...									
.. 19	N	e	15 36 28	...	...	...	Slight: Near.								
		i	37 6	...	...	...									
		F	15 44	...	...	...									
.. 20	N	e	6 6 14	...	...	...	Tremor.								
		i	10 43	...	...	...									
		F	43	...	...	...									
.. 21	N	P	7 12 6	...	...	5,900	Great Epc: 45°·2N. 148°·6E. (J.S.A.)			e	4 30 53	...	...	...	Tremor.
		PR <sub>1</sub>	15 1	...	...	...				F					Lost in microseisms
		S	19 41	...	...	...									
		PS	20 15	...	...	...									
		L	28 31	...	...	...									
		M <sub>1</sub>	33 36	20	246	...									
		Mn	38 6	20	448	...									
		F	Lost in the following after shock.			...									
.. 21	N	e	22 38 25	...	...	...	Tremor.								
		i	46 0	...	...	...									
		i	46 36	...	...	...									
		F	Lost (in changing the chart)			...									
.. 22	N	eP	3 3 26	...	...	5,900	Slight.								
		S	11 1	...	...	...									

Slight.  
 Δ from Sg — S  
 Epc: 26°·5 N., 98°·5 E.  
 Frontier of Burma.

TABLE D<sub>3</sub>—*contd.*

TABLE D<sub>3</sub>—con'd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.		
		Mn	51 19	...	...	...			Apr. 7	N	eP?	18 37 37	...	...	3,750	Slight.
		F	5 18	...	...	...					eS	43 9	...	...		
Mar. 29	N	e	5 46 53	...	...	...	Tremor.				SR <sup>1</sup>	45 46	...	...		
		F	6 40	...	...	...				eL <sup>1</sup>	48 5	...	...			
," 29	N	e	7 37 6	...	...	...	Tremor.				Mn	51 21	8	10		
		F	Lost in microseisms.							F	19 21	...	...			
," 31	N	P	10 37 35	...	730		Slight. Epc: 28°.5 N., 88°.5 E.		," 8	N	i	15 23 20	...	...		Tremor.
		S	38 50	...	...	...				F	16 11	...	...			
		Mn	40 52	6	41	...			," 9	N	e	11 19 22	...	...		Tremor.
		F	11 4	...	...	...				Mn	21 31	7	3			
Apr. 3	N	e	2 33 57	...	...	...	Tremors.				F	Lost in microseisms.				
		Mn	38 16	8	3	...				e	14 16 58	...	...			
		F	Lost in microseisms.							Mn	27 24	9	3			
," 3	N	i	8 59 25	1	1	1	Slight, near.		," 14	N	e	21 20 30	...	...		
		F	Lost in microseisms.							F	14 52	...	...		Slight.	
," 3	N	e	11 32 2	...	...	...	Tremor.				i	23 26	...	...		
		i	37 52	...	...	...				i	24 27	...	...			
		Mn	45 4	10	5	...				i	25 15	...	...			
		F	12 17	...	...	...				i	26 17	...	...			
," 3	N	eP(?)	21 16 55	...	3,190		Slight.			M	28 27	8	18			
		S	21 51	...	...	...				F	21 59	...	...			
		L	25 5	...	...	...				i	19 29 9	...	...			
		Mn	33 5	14	6	...				F	41	...	...			
		F	22 4	...	...	...			," 15	N	i	20 17 30	...	...		
," 4	N	e	20 47 58	...	...	...	Slight, near.			J	21 58	...	...			
		F	21 1	...	...	...				Mn	35 24	15	4			
," 5	N	P	7 5 50	...	5,430		Moderate. Epc: 5° S., 130° E. near Banda Islands O=6h. 56m. 53s.		," 15	N	e	21 22 0	...	...		
		PR <sub>1</sub>	8 28	...	...	...				F	47	...	...			
		S	12 59	...	...	...			," 16	N	P	3 15 7	...	...	10,900	Moderate.
		PS	13 34	...	...	...				e(pP?)	16 37	...	...		△ from ScPcs—P	
		L	21 19	...	...	...				sP	17 22	...	...		Epc: 22 2 S., 170° E.	
		Mn	25 24	15	93	...				PR <sub>1</sub>	19 22	...	...		H=3h. OIm. 84s. Depth = 390 + km. (J. S. A.).	
		F	12 17	...	...	...				e	20 23	...	...			
," 5	N	eP	21 55 20	...	610		Slight. Felt at Digboi in Assam.			e	21 25	...	...			
		P*	55 39	...	...	...				ScPcs	25 4	...	...			
		S	56 25	...	...	...				i	26 19	...	...			
		S*	56 45	...	...	...				i	28 32	...	...			
		S	57 6	...	...	...				i	38 7	...	...			
		Mn	58 36	10	12	...				G ?	43 4	...	...			
		F	22 15	...	...	...				M	4 11 46	20	46			
," 5	N	e	23 49 0	...	...	...	Tremor.			F	Lost in microseisms.					
		i	56 16	...	...	...					e	21 38 39	...	...		
		F	Lost in microseisms.							F	22 13	...	...			
," 7	N	i	14 10 6	...	...	...	Tremor.		," 27	N	e	7 20 22	...	...		
		F	31	...	...	...				i	23 22	...	...			

TABLE D<sub>2</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.		
Apr. 27		Mn	26 48	10	5	...		May. 4		Mn	49 10	9	...	...		
		F	44 ...	...	...	...				F	16 16 ...	...	...	...		
" 29	N	e	18 5 18	...	...	...	Tremor.	"	5	N	e	21 22 57	...	...	...	Tremor.
		i	35 18	...	...	...				F	22 6 ...	...	...	...		
		F	Masked by the following shock.					"	6	N	e	10 34 47	...	10	...	Slight
" 29	N	P	19 4 58	...	...	9,150	Slight.				e	35 8	...	...	...	
		S	15 16	...	...	...	Epc : 53° N., 160°.5 W.			e	35 31	...	...	...		
		PS	16 2	...	...	...	Depth = 40 + km. (J. S. A.)			e	36 14	...	...	...		
		SR <sub>1</sub>	20 49	...	...	...	53° O N., 161° W. (U. S. C. G. S.)			i	37 7	...	...	...		
		SR <sub>2</sub>	24 13	...	...	...	H = 18th. 52m. 40s.			Mn	40 36 8	...	...	...		
		Mn	51 10	16	22	...				F	Lost in microseisms.					
		F	Masked by the following shock.													
" 29	N	P	20 26 41	...	...	(4,450)	Slight. Deep ?	"	9	N	P	14 56 11	...	18	6,090	Slight.
		IPR?	28 4	...	...	...				PR <sub>1</sub>	58 16	...	...	...	Epc : 48° 0 N., 150°.5 E., near Kurile Islands. H = 14h. 40m. 46s.	
		S	32 56	...	...	...				S	15 3 57	...	...	...		
		ISR <sub>1</sub> ?	35 18	...	...	...				SR <sub>1</sub>	7 43	...	...	...		
		i	38 26	...	...	...				L	13 18	...	...	...		
		F	22 27	...	...	...				Mn	24 58 16	...	...	...		
" 30	N	P	19 35 18	...	...	1,023	Slight Epc : 29° N., 81° E. in Nepal	"	10	N	e	15 36 58	...	...	...	Tremor.
		P*	35 38	...	...	...				f	48 3	...	...	...		
		P?	36 11	..	...	...	H = 19h. 33m. 05s.			Mn	53 16	...	...	...		
		S	37 4	...	...	...				F	Lost in microseisms.					
		S*	37 41	...	...	...		"	11	N	e	16 16 28	...	...	...	Tremor.
		S	38 13	...	...	...				i	18 7	...	...	...		
		Mn	40 37 6	53	...					Mn	19 35	...	...	...		
		F	Masked by the following shock.							F	16 34 ...	...	...	...		
" 30	N	eP	20 5 51	...	...	950	Slight. Epc : Possibly in the neighbourhood of the preceding shock.	"	12	N	e(P?)	2 55 18	...	...	6,050	Maximum movement in secondary. Slight, deep focus. P time is uncertain due to microseisms. Epc : 3° S., 142°.5 E Depth = 150 km (Chiufeng).
		P	6 41	...	...	...				eP(?)	56 2	...	...	...		
		S	7 29	...	...	...				ePR <sub>1</sub>	57 50	...	...	...		
		S*	8 2	...	...	...				IS	3 2 53	...	...	...		
		S	8 32	...	...	...				ISS	4 16	...	...	...		
		Mn	11 9	8	21	...				SR <sub>1</sub>	7 29	...	...	...		
		F	20 36	...	...	...				?	39 ...	...	...	...		
May 1	N	e (e)	23 58 11	...	...		Tremor.	"	12	N	e	9 26 5	...	...	...	Tremor.
		F	Lost in microseisms.							F	40 ...	...	...	...		
" 4	N	e	5 45 39	...	8	...	Slight. Epc : 59°.4 N., 152°.9 W. (J. S. A.)	"	12	N	P	13 13 37	...	14	2,900	Slight Epc : 0° 96° E., West of Sumatra.
		e	54 37	...	...	...				PR <sub>1</sub>	14 14	...	...	...		
		e	57 51	...	...	...				IS	18 13	...	...	...		
		Mn	6 1 23	12	...	...				SR <sub>1</sub>	19 20	...	...	...		
		F	35 ...	...	...	...				L	21 00	...	...	...		
" 4	N	e	15 40 36	...	...	2,220	Slight.	"	13	N	Mn	28 50 15	...	...	...	Tremor.
		S	43 51	...	16	...				F	15 3 ...	...	...	...		
		e	44 42	...	...	...				iP	18 56 23	...	...	...		
		L	45 31	...	...	...		"	28	N	Mn	19 5 1	...	...	...	
		i	46 5	...	...	...				F	27 ...	...	...	...		
										iP	20 4 5	...	...	(4,720)	Slight. Surface waves very poor.	
										e	6 20	...	...	...		

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
May 28		iS	10 34	...	...	...		June 14	N	e	13 30 4	...	...	...	Tremor.
		i	12 42	...	...	...				e	34 43	...	...	...	
		i	14 22	...	...	...				i	35 17	...	...	...	
		i	16 57	...	...	...				F	Lost in microseisms.				
		M	20 36	...	...	...		" 21	N	e	15 33 27	...	...	18,330	
		F	Lost in microseisms.							P <sub>1</sub>	34 22	...	...	...	
" 31	N	e	5 37 10	...	13	1,100	Slight. Epc: 29° 3' N., 81° 0' E. Western border of Nepal. O = 5h. 34m. 30s. △ from mean of S-S.			ScPcP	37 00	...	...	...	
		e	37 38	...	...	...				PR <sub>1</sub>	41 56	...	...	...	
		e	38 3	...	...	...				ScPcS	40 19	...	...	...	
		iS	38 43	...	...	...				ScPcFcS	44 40	...	...	...	
		N	18*	39 23	...	...				SR <sub>1</sub>	58 42	...	...	...	
		S	39 53	...	...	...				SR <sub>2</sub>	16 5 32	...	...	...	
		Mn	42 8	5	...	...				eL	32 6	...	...	...	
		F	Lost in microseisms.							Mn	53 50	20	103	...	
" 31	N	I(?)	15 44 16	...	...	6,550	Slight, M waves feeble. Deep focus. Epc : 2° 5' S., 159° 5' E. (Chiufeng).	" 30	N	e	19 7 40	...	...	...	Tremor.
		I(S?)	52 28	...	...	...				F	Lost in microseisms.				
		i	52 58	...	...	...				P	11 54 5	...	...	2,350	
		e	56 33	...	...	...				PR <sub>1</sub>	54 27	...	...	...	
		L	16 2 44	...	...	...				S	57 39	...	...	...	
		F	Lost in microseisms.							SR <sub>1</sub>	57 59	...	...	...	
June 1	N	e	14 52 18	...	...	...	Tremor.			eL	59 48	...	...	...	
		e	59 4	...	...	...				M	12 1 41	...	...	...	
		Mn	15 9 50	...	...	...				Mn	7 48	17	139	...	
		F	Lost in microseisms.							F	Lost in microseisms.				
" 1	N	eP	21 36 20	...	...	1,250	Slight.	" 2	N	P	2 50 5	...	...	10,220	Slight.
		i	36 57	...	...	...				ScPcS	3 0 27	...	...	...	
		S	38 37	...	...	...				S	1 13	...	...	...	
		L	39 12	...	...	...				SR <sub>1</sub>	6 3	...	...	...	
		Mn	40 5	...	...	...				SR <sub>2</sub>	9 30	...	...	...	
		F	Lost in microseisms.							eL	17 41	...	...	...	
" 7	N	e	11 54 20	...	...	...	Tremor.			Mn	34 23	20	20	...	
		Mn	12 5 42	...	...	...				F	Lost in microseisms.				
		F	Lost in microseisms.												
" 8	N	i	3 58 11	...	...	...	Tremor.	" 4	N	eP (?)	6 7 5	...	...	9,080	
		i	59 36	...	...	...				e	16 38	...	...	...	
		Mn	?	...	...	...				i	17 8	...	...	...	
		F	Lost in microseisms.							i	17 45	...	...	...	
" 8	N	e	18 17 18	...	...	...	Tremor (near).			IPS (?)	18 58	...	...	...	
		i	18 16	...	...	...				i	21 50	...	...	...	
		Mn	19 43	...	...	...				e	23 14	...	...	...	
		F	Lost in microseisms.							e	28 4	...	...	...	
" 8	N	e	22 51 57	...	...	...	Tremor.	" 4	N	Mn	39 25(?)	...	...	...	
		Mn	?	...	...	...				F	Masked by next shock.				
		F	Lost in microseisms.												
" 9	N	e	21 14 21	...	...	...	Tremor (very near).			e	6 53 22	...	...	7,050	Slight.
		F	Lost in microseisms.							i	58 22	...	...	...	
										i	7 4 58	...	...	...	
										e	9 48	...	...	...	
										Mn	19 27	...	...	...	
										F	Masked by next shock.				

Slight. P uncertain  
due to microseisms.  
Δ from PS—P.

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.		
July 4	N	i	7 42 30	...	...	6,970	Slight.	July 19	e		25 28	...	...	...		
		i	48 42	...	...	...			F						Lost in microseisms.	
		i	55 11	...	...	...										
		i	8 0 0	...	...	...										
		Mn	10 22	...	...	...										
		F					Lost in microseisms.									
" 5	N	i	17 13 6	...	...	...	Tremor.			L						
		Mn	33 57	...	...	...			M							
		F					Lost in microseisms.			Mn						
" 5	N	i	19 3 20	...	...	...	Tremor.			F						
		F					Lost in microseisms.									
" 8	N	i	14 4 39	...	...	...	Tremor.			e						
		i	6 1	...	...	...			i							
		Mn	7 30	...	...	...			e							
		F					Lost in microseisms.			(SPP?)						
" 10	N	eP	20 52 11	...	...	5,000	Slight. Epc : 15° N., 137° E.			i						
		S	57 18	...	...	...			i							
		SR <sub>1</sub>	59 56	...	...	...			i							
		SR <sub>2</sub>	21 01 21	...	...	...			i							
		M	07 52	...	...	...			i							
		Mn	9 9 17 13	...	...	...			i							
		F					Lost in microseisms.			F						
" 14	N	i	8 21 17	...	...	...	Slight.			eP						
		i	21 47	...	...	...			S							
		e	22 26	...	...	...			SR <sub>1</sub>							
		Mn	24 39 8 10	...	...	...			L							
		F					Lost in microseisms.			M						
" 14	N	e	22 37 55	...	...	...	Tremor.			Mn						
		Mn	49 26	...	...	...			F							
		F					Not recorded as the light was off.									
" 16	N	i	10 39 17	...	...	...	Tremor.									
		Mn	55 5	...	...	...										
		F					Lost in microseisms.									
" 18	N	i	1 58 57	...	...	...	Slight, near.									
		i	2 1 13	...	...	...										
		i	1 33	...	...	...										
		i	1 49	...	...	...										
		F					Lost in microseisms.									
July 19	N	i	19 56 42	...	...	...	Slight. Epc : 1° 5 N., 77° 5 W. H=19h. 35m. 50s. h=175 km. (J. S. A.)			eP						
			58 54	...	...	...			PR <sub>1</sub>							
		i	20 2 35	...	...	...			S							
		i	3 58	...	...	...			SR <sub>1</sub>							
		i	5 26	...	...	...	Maximum move- ment.		L							
		i	10 23	...	...	...			Mn							
		i	10 46	...	...	...			F							
		e	24 28	...	...	...									Lost in microseisms.	

† For Omori-Ewing instrument.

TABLE D<sub>3</sub>—*contd.*

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.					H. M. S.	Sec.	μ	Km.		
Aug. 5	N	eP(?)	14 54 20	...	...	(7,040)	Slight. Phases confused by microseisms. Epc: 7°S.; 149°E. (Strasbourg)	1937.	Aug. 15	N	eP	12 47 23	...	...	890	Slight Aftershock of the preceding one.
		S(?)	15 02 59	...	...	...					eS	48 54	...	...		
		i	03 22	...	...	...					S*	49 25	...	...		
		i	03 52	...	...	...					S	49 47	...	...		
		F	Lost in microseisms.								Mn	52 29	...	...		
" 8	N	P (?)	3 35 19	...	...	550	Slight.		" 17	N	e	13 19 24	...	...		
		P*	35 30	...	...	...					e	26 0	...	...		
		? -	36 18	...	...	...					eL	32 32	...	...		
		S	36 47	...	...	...					M	36 10	...	...		
		Mn	37 6	...	...	...					Mn	41 20	...	...		
		F	Lost in microseisms								F	14 13	...	...		
" 8	N	e	5 7 37	...	...	...	Tremor.		" 20	N	P	6 47 21	...	...	5,570	Slight. Epc: 24° S. 71°E. Indian Ocean. H = 6h. 38m. 21s.
		F	Lost in microseisms								PR <sub>1</sub>	49 18	...	...		
" 9	N	i	12 52 6	...	...	...	Tremor				S	54 38	...	...		
		F	Lost in microseisms								SR <sub>1</sub>	58 3	...	...		
" 9	N	eP	14 48 20	...	...	5,050	Slight. Epc: 26°N.; 140°E. Near Bonin Islands.				SR <sub>2</sub>	59 26	...	...		
		PR <sub>1</sub>	50 40	...	...	...					L	7 2 41	...	...		
		S	55 8	...	...	...					Mn	10 51 14	19	...		
		PS(?)	55 43	...	...	...					F	Lost in microseisms.				
		SR <sub>1</sub>	58 11	...	...	...			" 20	N	P	12 6 12	...	...	3,420	Great. Epc: 17°N., 122°E (U.S.C.G.S.) 14°10'N., 122°05'E. H = 11h. 59m. 13s. (Manila) Destructive in manila.
		eL	15 2 8	...	...	...					PR <sub>1</sub>	7 3	...	...		
		Mn	9 45	...	...	...					PR <sub>2</sub>	7 22	...	...		
		F	Lost in microseisms.								S	11 23	...	...		
11	N	P	1 2 43	...	...	4,450	Moderate. Focal depth 620 km. (appr.)				SR <sub>1</sub>	12 58	...	...		
		i	3 13	...	...	...					L	15 5	...	...		
		i	3 55	...	...	...					Mn	22 47 21	669	...		
		i	4 25	...	...	...					Lost in microseisms.					
		i	5 35	...	...	...			" 21	N	e	23 21 7	...	...		
		i	7 4	...	...	...					Mn	36 13	...	...		
		S	8 5 35m	m	...	...					F	55	...	...		
		i	9 20	...	...	...						18 45 47	...	...		
		i	12 50	...	...	...			" 24	N	e	52 37	...	...		
		F	Lost in microseisms.								i	19 56	...	...		
" 15	N	e(P)	4 33 15	...	...	(3,020)	Slight. Preliminary confused by microseisms. Epc: In North China Sea.				F	42	...	...		
		S	38 0	...	...	...			" 25	N	e	22 6 26	...	...		
		SR <sub>1</sub>	39 0	...	...	...					i	15 28	...	...		
		i	40 13	...	...	...					Mn	20 58	...	...		
		L	41	...	...	...					F	42	...	...		
		Mn	48 3	...	...	...			" 26	N	e	19 2 55	...	...		
		F	5 15	...	...	...					i	10 32	...	...		
" 15	N	eP(?)	11 38 35	...	...	890	Slight. Epc: 30°N.; 89°E.; Tibet.				Mn	18 15 20	23	...		
		P*	38 55	...	...	...					F	Lost in microseisms.				
		P	39 9	...	...	...					P	14 17 14	...	...	890	Moderate: Epc: 25° N. 96° E. Upper Burma. H = 14h. 15m. 15s.
		S	40 6	...	...	...					P*	17 34	...	...		
		S*	40 37	...	...	...					P	17 54	...	...		
		S	40 55	...	...	...					S	18 45	...	...		
		Mn	44 2	7	44	...					S*	19 16	...	...		
		F	12 26	...	...	...					S	19 38	...	...		

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Aug. 31		Mn	25 20	9	333	...		Sept. 15	N	P	12 39 22	...	8,730	Slight.	
		F	16 12	...	...	...			18		49 22	...	...	Epc: 9°S., 161°E. Solomon Islands, (U. S. C. G. S.)	
Sept. 1	N	e	5 44 26	...	...	...	Slight.	" 16	N	P'	0 8 22	...	15,700	Slight. Epc: 14°N. 92°W. H=23h. 48m. 52s. (U. S. C. G. S.)	
		e	44 56	...	...	...			PR <sub>1</sub>	11 18	...	...	...	14°N. 91°W. (Stras- bourg.)	
		i	45 27	...	...	...			e	13 14	...	...	...		
		e	46 20	...	...	...			SePePeS	18 31	...	...	...		
		i	46 59	...	...	...			SePePeS	23 57	...	...	...		
		i	47 32	...	...	...			PPS						
		F	6 3	...	...	...			L	33 39	...	...	...		
" 1	N	e	8 56 19	...	...	...	Slight. Epc: 31°S., 179°W Kermadek Islands (U. S. C. G. S.)	" 17	N	e	9 51 4	...	...	...	
		e	9 11 11	...	...	...	37°S., 179°W. H=Sh. 39. Im. (Strasbourg.)		i	10 0 56	...	...	...	slight.	
		PS	6 27	...	...	...			e	16 11	...	...	...		
		eSR <sub>1</sub>	11 52	...	...	...			Mn	35 41	...	...	...		
		e	15 8	...	...	...			F	12 9	...	...	...		
		Mn	44 47	20	11	...									
		F	Lost in microseisms.												
" 3	N	eP	18 59 40	...	...	(8,450)	Moderate, Focal depth about 250 km. Epc: 52°5'N., 177°5'W. W. Aleutian Islands H=1sh. 48 m. 29s. h=160-180 km. (J. S. A.)	" 21	N	eP	7 52 4(?)	...	...	(1,930)	Slight. Epc: 21°N., 104°E. Deep?
		j	59 55	...	...	...			eP	52 7	...	...	...		
		pP	19 0 36	...	...	...			i	52 19	...	...	...		
		i	01 10	...	...	...			i	52 20	...	...	...		
		iS	9 3	...	...	...			N†	54 24	...	...	...		
		i	9 26	...	...	...			N†	55 24	...	...	...		
		i	10 18	...	...	...			N†	55 27	...	...	...		
		sS(?)	10 48	...	...	...			N†	56 31	...	...	...		
		SR <sub>1</sub> (?)	15 35	...	...	...			N	F	8 55	...	...		
		F	Lost in microseisms												
" 4	N	i	6 39 47	...	...	...	Tremor.	" 21	N	eP	9 47 55?	...	...	4,330	Slight. Epc: In the region of 4°N., 125°E., Celebes Sea., H=9h. 40. 0m.
		F	Lost in microseisms						ePR <sub>2</sub>	49 35	...	...	...		
" 8	N	i	1 0 58	...	...	...	Slight. Epc: South Atlantic in the neighbourhood of Cape Horn. H=Oh. 40. Im (U. S. C. G. S.)		eS	54 03	...	...	...		
		i	14 22	...	...	...			eSR <sub>1</sub>	55 51	...	...	...		
		i	16 51	...	...	...			eL	58 27	...	...	...		
		i	22 0	...	...	...			M	10 1 33	...	...	...		
		Mn	38 55 10	9	...	...			Mn	7 58	...	...	...		
		F	Lost in microseisms						F	11 9	...	...	...		
" 9	N	e	17 40 50	...	...	2,200	Slight. Epc: probably in the neighbourhood of Kabul. Felt very strongly at Drosh and Gul- marg.	" 22	N	eP?	3 18 28	...	...	3,900	Slight. Epc: 12°31'N., 124°8'E. Felt in Eastern Visayas (Manila).
		S	43 26	...	...	...			e	19 29	...	...	...		
		SR <sub>1</sub>	44 8	...	...	...			i	23 24	...	...	...		
		L	45 1	...	...	...			eSR <sub>1</sub>	26 09	...	...	...		
		M	45 9	...	...	...			e	26 34	...	...	...		
		F	Lost in microseisms.						Mn	39 8	...	...	...		
" 9	N	P	23 39 7	...	...	670	Slight. Epc: 27°N., 94°E. Felt strongly at Dibrugarh and moderately at Gauhati, Tezpur, Salon a and Shillong.	" 23	N, E†	IP	13 17 15	...	...	7,670	Moderate. Epc: 6°S., 154°E. H=13h. 06m. 01s. (U. S. C. G. S.)
		P*	39 20	...	...	...			IPR <sub>1</sub>	19 53	...	...	...		
		P	39 35	...	...	...			IPR <sub>2</sub>	21 19	...	...	...		
		S	40 16	...	...	...			N, E†	S	26 24	...	...		
		S*	40 38	...	...	...			N, E†	PS	26 56	...	...		
		S	40 53	...	...	...			N	SR <sub>1</sub>	31 2	...	...		
		F	Lost in microseisms.												

†From Omori-Ewing components.

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937			H. M. S.	Sec.	μ	Km.		
Sept. 23	N	SR <sub>2</sub>	33 39	...	...	...		Oct. 8		e	46 37	...	...	...		
	N	L	39 52	...	...	...				F					Lost in microseisms.	
	N	Mn	47 17	11	93	...		" 11	N	e	22 40 30	...	...	...	Tremor.	
	N	F	Lost in microseisms.							Mn	52 22	...	...	...		
.. 25	N	e	5 14 49	...	...	...	Tremor.	" 11	N	F					Lost in microseisms.	
		Mn	25 39	...	...	...									Slight, near.	
		F	Lost in microseisms.													
.. 25	N	e	17 54 57	...	...	...	Tremor.	" 12	N	i	23 10 4	...	...	...	Slight, distant.	
		i	57 57	...	...	...				Mn	11 9	...	...	...		
		Mn	18 9 24	...	...	...				F	30 ...	...	...	...		
		F	34 ...	...	...	...				e	21 12 17	...	...	...		
.. 27	N	IP	9 2 36	...	...	8,980	Moderate, Epc: 7°S., 110°E. (Strasbourg) Central and eastern Java.	" 17	N	P	4 55 36	...	...	5,080	Slight, Epc: 35°7 N., 141°0 E. Inubosaki, (Strasbourg).	
		PR <sub>1</sub>	3 45	...	...	...				S	5 2 25	...	...	...		
		PR <sub>2</sub>	4 9	...	...	...				i	2 40	...	...	...		
		IS	8 22	...	...	...				SR <sub>2</sub>	5 55	...	...	...		
		SR <sub>1</sub>	10 27	...	...	...				L	10 13	...	...	...		
		L	13 4	...	...	...				Mn	15 47	20	52	...		
		Mn	24 44 15	268	...	...				F	6 29	...	...	...		
		F	Lost in microseisms.													
.. 29	N,N†	eP	18 52 37	...	...	410	Slight; felt at Sri- mangal and feebly at Shillong.	" 20	N	P	1 26 46	...	...	1,250	Moderate. + According to Jeffreys' table for the near earthquake Pulses. Felt in the Punjab, the West U. P. and some damages done at Simla. Epc: 30° 0 N., 78° 2 E. near Dehra Dun. O : lh. 24m. 00s.	
	N,N†	P	52 52	...	...	...				IS	28 52	...	...	...		
	N,N†	i	53 18	...	...	...				SR <sub>2</sub> (?)	29 12	...	...	...		
	N†	eS(?)	53 22	...	...	...				S*	29 40	...	...	...		
	N†	S*	53 32	...	...	...				S	30 13	...	...	...		
	N†	S	53 43	...	...	...				Mn	30 44	7 137	...	...		
	N	i	53 51	...	...	...				F	Lost in Microseisms.					
	N	F	19 11	...	...	...										
Oct. 1	N	e	19 41 29	...	...	...	Slight, distant.	" 22	N	P	16 19 26	...	...	2,690	Slight. Epc: 0° 5 N. 96° 0 E. West off Sumatra. H = 16h. 14·5m.	
		Mn	20 35 58	...	...	...				ePR <sub>1</sub>	19 56	...	...	...		
		F	21 45	...	...	...				S	23 47	...	...	...		
.. 4	N	e	4 11 33	...	...	...	Tremor.	" 23	N	SR <sub>1</sub>	24 46	...	...	...		
		F	Lost in microseisms.							M	27 43	...	...	...		
.. 5	N	eP	10 5 25	...	...	3,170	Slight. Focal depth— 220 km.	" 23	N	F	17 9	...	...	...	Slight, distant.	
		e	6 35	...	...	...				e	14 52 22	...	...	...		
		IS	10 8	...	...	...				Mn	15 9 10	...	...	...		
		e	10 53	...	...	...				F	35 ...	...	...	...		
		F	11 27	...	...	...				e	17 11 15	...	...	...		
.. 6	N	P	17 16 0	...	...	(8,170)	Slight. Focal depth— 200 km. ? Epc. 10°S., 150°E. New Guinea (Stras- bourg).	" 24	N	Mn	18 10 23	...	...	...		
		e(pP)	16 49	...	...	...				F	53 ...	...	...	...		
		i	18 35	...	...	...				F	13 11	...	...	...		
		IS	25 04	...	...	...				eP(?)	11 48 44	...	...	8,930	Slight.	
		i	26 43	...	...	...				ePR <sub>1</sub>	51 50	...	...	...		
		i	27 20	...	...	...				IS	58 52	...	...	...		
		F	19 40	...	...	...				eSR <sub>1</sub>	12 4 16	...	...	...		
.. 8	N	eP	21 45 8	...	...	(570)	Slight.	" 29	N†E†	Mn	29 24	18	14	...		
		e	45 41	...	...	...				F	7 81 5	...	...	2,800	†Omori-Ewing seis- mographs. Slight. Epc: 37° 0 N. 70° 5 E.—h=250 —300 km.	
		S?	46 8	...	...	...				N†	eS	34 40	...	...		
										E†	IS	34 40	...	...		
										N†	SR <sub>1</sub>	35 20	...	...		
										N†	eL	36 4	...	...		

†From Omori—Ewing components.

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase	G.M.T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase	G.M.T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Oct. 30	N	e	8 54 57	...	...	...	Tremor.	Nov. 13	N	e	10 8 49	...	...	...	Slight, very distant.
		F	9 14 ...	...	...	...				i	14 37	...	...	...	
" 30	N	eP	20 30 40	...	...	1,210	Slight.	" 13	N	Mn	11 4 8	...	...	...	
		S	32 53	...	...	...				F					Masked by next shock.
		eL	33 30	...	...	...				eP	11 55 31	...	..	2,450	
		M	34 23	...	...	...				PR <sub>1</sub>	56 5	...	...	...	Slight. Epc. 38° N., 70° E.
		F	50 ...	...	...	...				IS	59 33	...	...	...	
" 31	N	e	22 35 9	...	...	...	Tremor.			eSR <sub>1</sub>	12 0 26	...	...	...	
		F	53 ...	...	...	...				eL	1 36	...	...	...	
Nov. 2	N	e	11 15 15	...	...	...	Slight, distant.			M	3 33	...	...	...	
		Mn	36 59	...	...	...				Mn	5 46	7	17	...	
		F					Lost in microseisms.			F	51 ...	...	...	...	
" 7	N	eP	19 11 56	...	...	2,070	Slight; felt at Peshawar. Epc: 36° 8' N., 73° 5' E.	" 13	N	e	18 14 20	...	...	...	Slight, very distant.
		eS (?)	15 26	...	...	...				Mn	19 0 19	...	...	...	
		SR <sub>1</sub>	16 06	...	...	...	Hindu Kush.			F	50 ...	...	...	...	
		F					Lost in microseisms.								
" 9	N	e	6 33 59	...	...	...	Slight, distant.								
		Mn	46 28	...	...	...									
		F					Lost in microseisms.								
" 10	N	i	21 59 8	...	...	...	Slight, distant.								
		Mn	22 1 53	...	...	...									
		F	14 ...	...	...	...									
" 11	N	eP	0 6 33	...	...	2,910	Slight. Epc: 22° 5' N., 62° 0' E. North Arabian Sea. H=Oh. Olm. 30s.	" 15-16	N	iP	21 40 57	...	...	1,550	Moderate.
		ePR <sub>1</sub>	7 23	...	...	...				IPR <sub>1</sub>	41 6	...	...		Epc: 34° 5' N., 77° 5' E., east Kashmir. 0-21h. 37m. 34s.
		IS	11 10	...	...	...				IS	43 42	...	...	...	
		ISR <sub>1</sub>	12 18	...	...	...				ISR <sub>1</sub>	44 8	...	...	...	
		IL	13 50	...	...	...				IL	44 37	...	...	...	
		M	16 14	...	...	...				M	45 52	...	...	...	
		Mn	18 52	9	64	...				Mn	46 55	12	184	...	
		F					Lost while changing chart.			F	0 7 ...	...	...	...	
" 11	N	IP	15 5 21	...	...	540	Slight, felt at Silchar (Assam).	" 16	N	e	5 36 38	...	...		Slight, distant.
		IP*	5 31	...	...	...				Mn	38 50	...	...	...	
		P (?)	5 43	...	...	...				F	6 1 ...	...	...	...	
		IS	6 17	...	...	...				i	13 57 36	...	...		Slight, distant.
		IS	6 48	...	...	...				i	58 3	...	...	...	
		F	25 ...	...	...	...				F	14 18 ...	...	...	...	
" 12	N	e	14 42 45	...	...	1,590	Epc: 33° N., 77° 5' E. H=14h. 39m. 50s.	" 16	N	eP	22 31 48	...	...	1,870	Slight.
		eS	46 2	...	...	...				IS	35 2	...	...	...	
		L	47 40	...	...	...				IL	36 12	...	...	...	
		F	15 9 ...	...	...	...				Mn	38 39	10	9	...	
" 12	N	e	17 32 55	...	...	...	Slight, near (?)	" 17	N	e	17 54 32	...	...	...	Slight, distant.
		i	33 58	...	...	...				Mn	58 36	...	...	...	
		F	54 ...	...	...	...				F	18 14 ...	...	...	...	

TABLE D<sub>3</sub>—*contd.*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Nov. 18	N	e	3 0 23	...	...	...	Slight, very distant.	Nov. 28	N	iP	5 19 26	...	...	2,800	Moderate. Epc: 2°.0 S., 96°.6 E., off West Sumatra. O=05h. 24m. 00s.
		i	7 14	...	...	...				iPR <sub>1</sub>	29 59	...	...	...	
		i	7 45	...	...	...				iPR <sub>2</sub>	30 12	...	...	...	
		F	52	...	...	...				IS	33 55	...	...	...	
" 18	N	i	4 48 43	...	...	...	Slight, distant.			ISR <sub>1</sub>	35 0	...	...	...	
		Mn	55 38	...	...	...				IL	36 23	...	...	...	
		F	5 7	...	...	...				M	38 43	...	...	...	
" 19	N	e	22 20 55	...	...	...	Slight, distant.	" 29	N	F	8 52	...	...	...	Slights, near.
		i	21 23	...	...	...				e	15 21 24	...	...	...	
		e	25 8	...	...	...				Mn	22 56	...	...	...	
		Mn	39 25	...	...	...				F	15 36	...	...	...	
		F	59	...	...	...		" 30	N	iP	0 44 29	...	...	1,950	Moderate. Epc: 6°N. 89°E. South Bay of Bengal. H=0h. 40m. 28s. 5°N., 90°E. H. O.=0h. 40°5m. (Strasbourg).
" 23	N	e	14 11 10	...	...	...	Slight, very distant.			iPR <sub>1</sub>	44 48	...	...	...	
		Mn	15 17 41	...	...	...				IS	47 50	...	...	...	
		F	16 11	..	...	...				ISR <sub>1</sub>	48 24	...	...	...	
" 23	N	eP	16 31 41	...	...	520	Slight.			IL	49 3	...	...	...	
		eS	32 37	...	...	...				M	50 41	...	...	...	
		IS*	32 52	...	...	...				Mn	54 41	15 246	...	...	
		F	43	...	...	...				F	Lost in microseisms.				
" 25	N	i	1 3 57	...	...	...	Slight, distant.	" 30	N	e	12 5 14	...	...	...	Tremor.
		Mn	25 40	...	...	...				F	Lost in microseisms.				
		F	2 19	...	...	...		" 30	N	e	13 7 43	...	...	5,890	Moderate. From S-H. Epc: 37°.5 N., 37°.5 E. In Abyssinia. H=12h. 57'9m. 7°.5 N., 45°E. h=10 km. (Strasbourg)
" 25	N	i	5 6 43	...	...	...	Tremor.			e	10 7	...	...	...	
		F	23	...	...	...				IS	14 35	...	...	...	
" 25	N	eP	5 42 18	...	...	3,420	Slight.			i	17 6	...	...	...	
		ePR <sub>1</sub>	43 28	...	...	...				ISR <sub>1</sub>	17 41	...	...	...	
		IS	47 29	...	...	...				L	21 49	...	...	...	
		eL	51 10	...	...	...				M	25 19	...	...	...	
		Mn	55 25	10	5	...				F	Lost in microseisms.				
		F	Lost in microseisms.					Dec. 5	N	e	15 38 52	...	...	...	Slight, very distant.
" 26	N	eP	10 51 45	...	...	3,430	Slight. Epc: 27° 5 N., 122° E. east Coast of China.			i	43 20	...	...	...	
		ePR <sub>1</sub>	52 37	...	...	...			i	46 14	...	...	...		
		ePR <sub>2</sub>	52 59	...	...	...			Mn	16 31 7	...	...	...		
		i	55 25	...	...	...			F	17 56	...	...	...		
		IS	56 57	...	...	...		" 6	N	iP	4 43 5	...	...	5,150	Slight. Near Bonin Island.
		ISR <sub>1</sub>	58 31	...	...	...			iPR <sub>1</sub>	44 46	...	...	...		
		eL	11 0 36	...	...	...			ePR <sub>2</sub>	45 29	...	...	...		
		M	11 3 17	...	...	...			eS	49 58	...	...	...		
		Mn	6 15	10	8	...			ISR	54 15	...	...	...		
		F	12 7	...	...	...			eL	57 11	...	...	...		
" 27	N	e	13 58 10	...	...	...	Slight, very distant.			M	5 0 24	...	...	...	
		e	14 2 41	...	...	...			Mn	4 47	17	28	...		
		Mn	51 25	...	...	...			F	6 30	...	...	...		
		F	15 39	...	...	...		8	N	iP	8 38 30	...	...	3,250	Moderate. Epc: 25°N., 120°E. H=8h. 32m. 17s. 26°N., 119°E. H. O.=8h. 32°4'm. (U. S. C. G. S.) 23°.2 N., 121°E. felt in all Formosa (Taihoku)
" 28	N	e	1 6 48	...	...	...	Tremor.			ePR <sub>1</sub>	39 33	...	...	...	
		e	17 8	...	...	...			i	42 20	...	...	...		
		F	Lost while changing chart.						IS	43 30	...	...	...		

TABLE D<sub>3</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937. Dec. 8			H. M. S.	Sec.	μ	Km.		1937. Dec. 16			H. M. S.	Sec.	μ	Km.	
		ISR <sub>1</sub>	44 55	...	...	...				eSR <sub>1</sub>	42 38	...	...	...	
		iL	46 38	...	...	...				eL	44 4	...	...	...	
		M	49 16	...	...	...				M	46 8	...	...	...	
		Mn	54 25	15	189	...				Mn	50 49	13	7	...	
		F	11 29	...	...	...				F	light fused.				
" 8	N	e	17 2 40	...	...	...	Tremor	" 16	N	i	18 37 54	...	...	...	Slight, distant.
		i	6 40	...	...	...				i	40 31	...	...	...	
		F	46	...	...	...				i	42 34	...	...	...	
" 8	N	eP	20 45 4	...	...	4,010	Slight. Epc: Probably in the neighbourhood of the previous shock.	" 17		Mn	49 21	...	...	...	
		i	49 12	...	...	...				F	19 12	...	...	...	
		IS(?)	50 52	...	...	...				i	4 39 6	...	...	...	Slight, distant.
		ISR <sub>1</sub>	52 59	...	...	...				M	52 8	...	...	...	
		i	54 22	...	...	...				Mn	57 55	...	...	...	
		iL	55 35	...	...	...				F	5 46	...	...	...	
		M	58 40	...	...	...		" 17	N	eP	9 39 17	...	...	3,910	Moderate.
		Mn	21 1 48	12	21	...				ePR <sub>1</sub>	40 47	...	...	...	Epc: Same as 8d 8h 40m.
		F	50	...	...	...				IS(?)	44 59	...	...	...	
" 8	N	e	23 45 56	...	...	...	Slight, distant.			eSR <sub>1</sub>	47 2	...	...	...	
		e	49 8	...	...	...				i	48 14	...	...	...	
		Mn	57 44	...	...	...				iL	49 35	...	...	...	
		F	Lost in microseisms.							M	52 34	...	...	...	
" 9	N	eP	22 12 53	...	...	500	Slight, Felt at Dhubri (Assam).	" 18	N	eP	13 23 23	...	...	2,750	Moderate. Epc: 42° N, N 71° 6 E. O: 13h. 18m. 05s
		eP*	13 3	...	...	...				iP	23 30	...	...	...	
		eP	13 13	...	...	...				IPR <sub>1</sub>	23 55	...	...	...	
		IS	13 47	...	...	...				IS	27 42	...	...	...	
		IS	14 11	...	...	...					27 48	...	...	...	
		F	28	...	...	...									
" 10	N	eP	13 37 36	...	...	5,270	Slight.	" 20	N	eL	30 13	...	...	...	
		ePR <sub>1</sub>	39 20	...	...	...				M	32 30	...	...	...	
		IS	44 36	...	...	...				Mn	33 50	10	18	...	
		eSR <sub>1</sub>	47 48	...	...	...				F	15 8	...	...	...	
		eSR <sub>1</sub>	49 3	...	...	...									
		eL	52 0	...	...	...		" 22	N	cS?	5 3 43	...	...	...	Slight. Epc: 29° N, 81° E, western border of Nepal. O=4h. 59m. 50s.
		M	56 12	...	...	...				i	3 55	...	...	...	
		Mn	59 1	17	17	...				i	4 8	...	...	...	
		F	14 48	...	...	...				IS	4 46	...	...	...	
" 13	N	eP	19 0 17	...	...	3,200	Moderate. Epc: 24° N., 121° E. 23° N., 120° E. South of Formosa (Stras- bourg). Felt in all Formosa. (Manila).	" 22	N	i	5 18	...	...	...	
		ePR <sub>1</sub>	0 59	...	...	...				F	39	...	...	...	
		IS	5 14	...	...	...									
		eSR <sub>1</sub>	6 37	...	...	...				PKS	4 0 33	...	...	...	Slight. Epc: 17° N., 106° W. H.O.=3h 31m. 17s. (U.S. C.G.S.)
		iL	8 26	...	...	...				i	4 43	...	...	...	
		M	9 49	...	...	...				i	9 25	...	...	...	
		Mn	13 59	15	163	...				e	18 50	...	...	...	17° N., 105° 7W. H=3h. 37m. 15s. (J. S. A.)
		F	21 3	...	...	...				eL	39 16	...	...	...	
" 16	N	eP	8 37 20	...	...	2,670	Slight.	" 22	N	Mn	5 7 35	15	7	...	
		ePR <sub>1</sub>	37 50	...	...	...				F	6 9	...	...	...	
		ePR <sub>1</sub>	38 2	...	...	...				eP	12 48 50	...	...	210	Slight.
		IS	41 39	...	...	...				iP	43 56	...	...	...	

TABLE D<sub>3</sub>—*concl.*

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	△	Remarks.
			H. M. S.	Sec.	μ	Km.					H. M. S.	Sec.	μ	Km.	
1937.								1937.							
Dec. 22		IS	44 15	...	...	...		Dec. 25	N	eP	1 18 37	...	...	3,850	Slight.
		IS	44 20	...	...	...				S(?)	24 15	...	...		
		Mn	46 2	...	...	...				I	25 44	...	...		
		F	48 ...	...	...					ISR <sub>1</sub>	26 18	...	...		
" 23	N	iP'_1	13 37 20	...	...	16,110	Great Epc: 17°.5 N., 97°.5 W. H.O.=13h, 17m, 56s. (Strasbourg) Destructive in Mexico.	" 25	N	IL	28 39	...	...		
		IPR <sub>1</sub>	40 33	...	...					M	32 9	...	...		
		iScPcP	40 52	...	...					F				Lost in microseisms.	
		IPR <sub>2</sub>	43 48	...	...					i	21 28 57	...	...		Slight, very distant.
		eScPcS	44 19	...	...					e	37 87	...	...		
		eScPcPcS	47 17	...	...					i	45 18	...	...		
		IPScPcS	50 42	...	...					Mn	22 23 53	...	...		
		IPPS	53 22	...	...					F	23 4 ...	...	...		
		ISR <sub>1</sub>	59 24	...	...			" 28	N	eP	8 18 10	...	...	4,970	Slight.
		ISR <sub>2</sub>	14 4 52	...	...					IPR <sub>1</sub>	19 46	...	...		
		eL	26 42	...	...					IPR <sub>2</sub>	20 27	...	...		
		M	37 27	...	...					IS	24 53	...	...		
		Mn	44 26	20	203					ISR <sub>1</sub>	27 51	...	...		
		F	17 30 ...	...	...					ISR <sub>2</sub>	28 55	...	...		
" 24	N	eP'_1	6 41 14	...	...	16,110	Slight.	" 28	N	IL	31 27	...	...		
		ePR <sub>1</sub>	44 54	...	...					M	35 25	...	...		
		eScPcP	45 13	...	...					Mn	40 50	20	17		
		PR <sub>1</sub> (?)	48 9	...	...					F				Lost in microseisms.	
		eScPcs	48 40	...	...					e	6 39 11	...	...		Slight, very distant.
		eScPcPcs	51 39	...	...					Mn	7 30 34	...	...		
		IPScPcs	55 3	...	...					F				Lost in microseisms.	
		eSR <sub>1</sub>	7 4 44	...	...			" 31	N	i	18 4 6	...	...		Slight, very distant.
		eSR <sub>2</sub>	9 13	...	...					Mn	19 4 57	...	...		
		eL	31 3	...	...					F	20 13 ...	...	...		
		M	42 21	...	...										
		Mn	53 1	21	19										
		F					Lost in microseisms								

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TABLE D<sub>4</sub>.

## STATION--SOLAR PHYSICS OBSERVATORY, KODAIKANAL.

Lat. 10° 13' 50" Long. 77° 28' 00" Height above M. S. L. 2343 metres.

Lithologic Foundation: Rock.

Instruments: Milne-Shaw Seismograph; East-West (E) Component.

## INSTRUMENTAL CONSTANTS.

Component.	Steady mass. (Kg.)	T. (sec.).	Vm	$\epsilon$	Paper speed (mm/min.)
E	0.45	12	250	20 : 1	8

TABLE D<sub>4</sub>.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude	△	Remarks.		
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.			
Jan. 4	E	eP	22 57 50	...	...	(7090)		Jan. 25		iL	18 44	...	...	...			
		eS	23 06 32	...	...	...				Mn	29 53	15	11	...			
		F	53	...	...	...				F	9 30 00	...	...	...			
" 5	E	eP	0 05 02	...	...	(6565)	Feeble shock. Epc: 40° S., 135° E. Northwest New Guinea.	Feb. 1	E	e	9 25 17	...	...	...	Feeble shock.		
		eS	13 15	...	...	...		;	1	E	F	10 16 00	...	...	...		
		F	53 00	...	...	...				e	21 21 00	...	...	...	Tremors.		
" 5	E	i(P)	4 56 42	...	...	(6700)	Feeble shock.	"	8	E	F	44 00	...	...	...		
		i(S)	5 05 03	...	...	...				i	8 47 00	...	...	...	Feeble shock.		
" 5	E	e	11 18 32	...	...	...	Feeble shock. Epc: North Riu Kiu Islands (Chiufeng).	"	12	E	F	9 16 00	...	...	...		
		e	27 31	...	...	...				e	5 04 00	...	...	...	Feeble.		
" 5	E	eP	21 47 27	...	...	6080	Epc: 31° N., 132° E. Off South Japan.	"	12	E	eP	5 39 54	...	...	3500	Slight. Epc: Gobi desert.	
		iS	55 12	...	...	...				eS	45 10	...	...	...			
		IPS	55 41	...	...	...		"	21	E	iP	7 18 53	...	...	7705	Great. Epc: 45° 2' N., 148° 6' E. (J.S.A.).	
		SR <sub>1</sub>	58 41	...	...	...				IS	23 04	...	...	...			
		L	22 04 16	...	...	...				IPS	23 42	...	...	...			
		Mn	15 00	19	6	...				SR <sub>2</sub>	30 22	...	...	...			
		F	23 03 00	...	...	...				L	36 00	...	...	...			
" 7	E	...	No record from 7th to 8th							Mn	49 00	20	163	...			
" 12	E	e	5 52 23	...	...	...	Feeble shock.								F Mixed up with the following shock.		
" 23	E	iP	11 07 45	...	...	8600	Near Islands?	Caroline	"	21	E	i(P)	11 3 24	...	...	7780	
		iS	17 39	...	...	...				e(PR <sub>1</sub> )	6 0	...	...	...			
		IPS	18 15	...	...	...				e(S)?	12 38	...	...	...			
		L	32 15	...	...	...				F	12 20	...	...	...	Tremors.		
		F	12 05 00	...	...	...				e	13 44 00	...	...	...			
" 25	E	iP	6 47 51	...	...	10000	Epc: 10° 8' S., 163° 3' E. (J.S.A.).	"	22	E	F	14 25 00	...	...	...		
		iScPcS	58 14	...	...	...	12° S., 164° E. (U. S. C. G. S.).			Mn	3 43 36	...	...	...			
		iS	58 46	...	...	...				eP	0 14 39	...	...	...			
		IPS	59 50	...	...	...				eS	19 9	...	...	...			
		IPPS	7 00 10	...	...	...				F	50 00	...	...	...			
		ISR <sub>1</sub>	05 15	...	...	...									Slight. Epc: Near 26° 5' N., 98° 5' E. Northeast Frontier of Burma.		

TABLE D<sub>4</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Ampli-	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Ampli-	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Feb. 23	E	e	0 59 00?	...	...	...	Long distance earthquake.			iS	14 13	...	...	...	
		F	2 37 00	...	...	...				iPS	14 53	...	...	...	
" 25	E	e	20 01 41	...	...	...	Slight.			iSR <sub>1</sub>	18 00	...	...	...	
" 28	E	iP	15 01 09	...	...	...	Slight shock.			iSR <sub>2</sub>	19 40	...	...	...	
		e	05 15	...	...	...				iL	23 48	...	...	...	
		F	32 00	...	...	...				Mn	28 02	19	21	...	
Mar. 11	E	e	18 10 14	...	...	...	Slight shock.	Apr. 7	E	e	14 6	...	...	...	Tremors.
		F	18 34 00	...	...	...	Phases not clear.	" 15	E	f	14 24	...	...	...	Tremors.
" 12	E	e	9 29 13	...	...	...	Two shocks ?	" 16	E	e	20 17	...	...	...	
		i	32 23	...	...	...				f	33	...	...	...	
		F	10 20 ...	...	...	...				pP	03 16 56?	...	...	11890	P. lost due to loss of trace.
" 14	E	e	12 23 35	...	...	...	Epc: 23° 8'S., 71° 0' W. O: 11h. 56m. 01s. (J.S.A.).			iPR <sub>1</sub>	20 00	...	...	...	Epc: 22° 28'S., 179° 0'E.
		i	24 ...	...	...	...	25° 08'S., 70° 0' W. O: 11h. 55m. 48s. (U. S. C. G. S.)			e	21 50	...	...	...	H = 3h. 01m. 34s. Depth = 390 ± km. (J.S.A.)
		e	33 46	...	...	...	Minor Damages reported from Taltal, Chile.			iScPcs	25 30	...	...	...	
		F	13 59 00	...	...	...				i	26 23	...	...	...	
" 15	E	P	6 02 00	...	...	3,150	Epc: Sumatra.			i	27 00	...	...	...	
		S	06 53	...	...	...				i	28 16	...	...	...	
		L	09 14	...	...	...				i	29 38	...	...	...	
		F	33 00	...	...	...				isSP	31 15	...	...	...	
" 16	E	iP	15 53 34	...	...	4,970	Epc: 18° N., 123° E. Felt in Northern Luzon and slightly in Manila.	" 29	E	i	32 02	...	...	...	
		PR <sub>1</sub>	55 15	...	...	...				i	41 42	...	...	...	
		PR <sub>2</sub>	55 37	...	...	...				iL	56 00	...	...	...	
		S	16 0 17	...	...	...				Mn	04 05 15	19	40	...	
		L	06 36	...	...	...				F	6 47	...	...	...	
		M	09 34	24	8	...				eP	19 06 15	...	...	10,860	△ from P-H. Epc. 53° 8' N., 160° 5' W. Depth = 40+ km (J.S.A.).
		F	37 00	...	...	...				PR <sub>1</sub>	10 11	...	...	...	161° W (U. S. C. G. S.). H = 18h. 52m. 40s.
" 21	E	iP	16 16 56	...	...	2,520	Slight. Epc: 26° 6' N., 92° 7' E., near Tezpur, Assam. O: 16h. 11m. 5s.	" 29	E	e	?	...	...	...	Merged with the previous shock.
		iS	21 04	...	...	...	Felt at Dhubri, Sylhet, Bogra, Jalpaiguri; Cherrapunji, Dibrugarh, Gauhati and Salona.	" 30	E	f	27 37	...	...	...	
		F	17 10 00	...	...	...				eP	19 37 35	...	...	2,080	Epc: 29° N., 81° E. in Nepal. H = 19h. 33m. 05s.
" 21	E	e	17 59 00	...	...	...	Tremors.	" 30	E	eS	41 07	...	...	...	
		F	18 33 00	...	...	...				iL	43 17	...	...	...	
" 26	E	eP	9 54 30	...	...	2,810	Epc: 11° 5' S., 64° E.			Mn	45 17	10	5	...	Epc: Possibly in the neighbourhood of the preceding shock.
		iS	59 00	...	...	...				F	20 04	...	...	...	
		Mn	10 04 50	12	25	...				e(P?)	20 10 24	...	...	...	
		F	11 31 00	...	...	...				e	13 47	...	...	...	
Apr. 3	E	e	21 18 ...	...	...	...	Feeble shock.	May. 4	E	i	14 10	...	...	...	
		F	46 ...	...	...	...				iL	15 00	...	...	...	
" 5	E	iP	7 6 21	...	...	6200	Minute marks irregular. Epc: 5° S., 130° E., near Banda Islands. O = 6h. 56 m. 52 s.	" 9	E	Mn	16 06	8	2	...	
		IPR <sub>1</sub>	8 18	...	...	...				F	34	...	...	...	
		IPR <sub>2</sub>	9 30	...	...	...				e	5 46 19	...	...	...	Feeble shock.
										F	6 28	...	...	...	
										e	14 58	...	...	...	
										F	16 20	...	...	...	
															Fpc: 48° 0' N., 150° 5' E., near Kure Islands. H = 14h. 46m. 46s.

TABLE D<sub>4</sub>--contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
May 11	E	e	12 14 ...	...	...	...	Tremors.	July 12	E	IP	0 6 58	...	...	2 265	Epc : 7°.5 N., 98°E
		F	13 25 ...	...	...	...				iS	10 40	...	...	...	
" 16			...	...	...	...	Tremors; no time marks.			SR <sub>1</sub> ?	11 25	...	...	...	
" 28			...	...	...	...	Feeble shock; no time marks.			L	12 18	...	...	...	
" 31	E	e	5 39 57	...	...	2,230	Preliminary confused by microseisms Epc : 29°.3 N., 81°E. Western border of Nepal O=5h. 34 m. 30s. A from SR <sub>1</sub> -O.	" 14	E	e	14 27 16	...	...	...	
		eS	42 36	...	...	...		" 19	E	e	19 55 53	...	...	...	Feeble, Epc : 1°.5 N., 77°.5 W.
		eSR <sub>1</sub>	43 00	...	...	...				F	22 22 00	...	...	...	H=19h. 35m. 55s. h=175 km. (J.S.A.).
		L	? ...	...	...	...									
		M	45 15	3	4	...									
		F	6 19 ...	...	...	...		" 27	E	e	17 33 12	...	...	...	Great Times uncertain due to failure of time marks. Record full of strong microseisms.
" 31	E	e	15 43 53	...	...	...	Feeble shock, Deep focus. Epc : 2°.5 S., 159°.5 E. (Chiu feng).			e (SR <sub>1</sub> )	38 04	...	...	...	Epc : 64°.5 N., 145°.1 W.
		F	16 41 ...	...	...	...				e (SR <sub>1</sub> )	41 42	...	...	...	H=17 h. 09m. 26s. G.M.T. Felt all over Central Alaska. (J.S.A.).
June 7	E	e	3 55 ...	...	...	...	Tremors.			M	18 00 47	...	...	...	
		f	4 11 ...	...	...	...				M	07 15 30	...	...	...	
" 14	E	e	13 23 ...	...	...	...	Tremors.			F	19 50 00	...	...	...	
" 21			No record. Owing to a defect in the instrument the record was lost.					" 26	E	c	4 04 00	...	...	...	Epc : 18°.6 N., 95°.8 W.
" 22										F	5 36 00	...	...	...	H=2h. 47m. 11s. h=75 km. Damage reported from cities along the Gulf coast of Mexico etc. (J.S.A.) h=100 km (Kew). Big microseism interfere with seismic waves.
" 24	E	e	14 30 ...	...	...	...	Tremors.								
" 24	E	f	14 57 ...	...	...	...									
" 24	E	e	20 59 ...	...	...	...	Tremors.	" 26	E	IP	20 07 06	...	...	8,770	Epc : 37° N., 140°E. 40° N., 142° E. (U. S. C. G. S.).
" 30	E	e	14 14 ...	...	...	...	Tremors.			iS	15 31	...	...	...	
		f	14 44 ...	...	...	...				iPS	16 00	...	...	...	
July 1	...	...	...	...	...	...	No time marks; only a part of the waves were recorded.			SR <sub>1</sub>	19 34	...	...	...	
" 2	...	...	...	...	...	...	Incomplete record; beginning not clear.			SR <sub>1</sub>	21 38	...	...	...	
" 4	E	eP?	6 8 00	...	...	9,970	Epc : 13°S., 163°E. (U.S.C.G.S.)	Aug. 1	E	eP	10 49 22	...	...	5805	Epc : 38° N., 114° E. in China.
		ScPcS?	18 38	...	...	...				PR <sub>1</sub>	51 02	...	...	...	
		S	18 53	...	...	...				PR <sub>2</sub>	51 48	...	...	...	
		PS	19 53	...	...	...				iS	56 24	...	...	...	
		I	20 50	...	...	...				ISR <sub>1</sub>	59 59	...	...	...	
		I	21 42	...	...	...				ISR <sub>2</sub>	11 01 10	...	...	...	
		L?	42 00	...	...	...				IL	03 48	...	...	...	
		M?	50 24	20	...	...	Merged with the next shock.			Mn	12 41 14	...	...	...	
		F	...	...	...	...				F	13 05 00	...	...	...	
" 4	E	I	7 50 00	...	...	...		" 4-5	E	IP	23 39 26	...	...	1810	Epc : 6° N., 94.5 E. off N. Sumatra.
		I	59 52	...	...	...				iS	42 35	...	...	...	
		I	8 0 28	...	...	...				ISR <sub>1</sub>	43 08	...	...	...	
		L	16 10	...	...	...				IL	43 49	...	...	...	
		M	23 16	20	...	...				M	45 20 19	...	...	...	
		F	9 5 00	...	...	...				F	01 02 00	...	...	...	
" 10	E	e	20 58 30	...	...	...	Slight shock. Epc : 15°N., 137°E.			eP	14 55 20	...	...	(7920)	Time of 8 and subsequent phases uncertain due to failure of time marks. Epc : 7°S., 140° E (Strasbourg).
		F	21 26 00	...	...	...				iS (?)	15 04 41	...	...	...	
										PS	05 18	...	...	...	

TABLE D<sub>4</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.		
		e	09 53	...	...	...			Aug. 21	E	e	23 25 00	...	...		
		fL	17 37	...	...	...				F	59 00	...	...	...	Tremors.	
		M?	24 20	19	...	...			" 22	E	e	2 24 00	...	...		
		F	57 00	...	...	...				F	53 00	...	...	...	Feeble shock.	
Aug. 8	E	e	5 16 00	...	...	...	Tremors.		" 23	E	e	17 20 00	...	...		Tremors.
		F	28 00	...	...	...				F	53 00	...	...	...		
" 9	E	e	14 50 00	...	...	...	Epc. 26° N., 140° E. near Bonin Island.		" 24	E	e	18 45 00	...	...		Feeble long distance shock.
		F	15 59 00	...	...	...				F	20 12 00	...	...	...		
" 9	E	e	16 51 00	...	...	...	Tremors.		" 25	E	e	22 12 00	...	...		Feeble shock.
		F	17 55 00	...	...	...				F	39 00	...	...	...		
" 11	E	iP	01 02 58	...	4,550		Maximum movement of amplitude 12 mm after S. Depth of focus 620 km. (approx.)		" 26	E	e	18 11 00	...	...		Feeble shock.
		i	03 35	...	...	...				F	19 02 00	...	...	...		
		i	04 35	...	...	...			" 31	E	e	...	...	...		
		i	05 45	...	...	...				F	2 49 00	...	...	...	Feeble shock Other phases lost while changing the record.	
		IS	08 25	...	...	...										
		i	09 34	...	...	...										
		i	10 45	...	...	...										
		i	11 37	...	...	...										
		F	03 27 00	...	...	...										
" 14	E	e	11 17 00	...	...	...	Tremors.		" 31	E	iP	14 20 23	...	...	2,690	Epc : 25° N., 96° E; Upper Burma. H=14h. 16m. 15s.
		F	32 00	...	...	...				IS	24 44	...	...	...		
" 15	E	eP	4 34 52	...	...	...	Epc : In North China Sea.			ISR <sub>1</sub>	25 48	...	...	...		
		PR <sub>1</sub>	36 41	...	...	...				IL	27 13	...	...	...		
		PcP	37 14	...	...	...				Mn	33 09	19	...	...		
		e	41 30	...	...	...				F	16 27 00	...	...	...		
		L	48 09	...	...	...		Sep. 1	E	eP	8 53 41	...	...	11500±	△ from PS-P Epc : 31°S., 179°W. Kermadek Islands. (U. S. C. G. S.)	
		M	52 12	24	...	...				PR <sub>1</sub>	57 47	...	...	...		
		F	6 05 00	...	...	...				PR <sub>1</sub> ?	9 00 08	...	...	...	37°S., 179° W. H=8h. 39. lm. (Strasbourg).	
" 15	E	eP <sub>2</sub>	11 42 10	...	2,550		Epc : 30° N., 89° E. Tibet.			ScPcS	04 31	...	...	...		
		IS	46 16	...	...	...				ScPcPcS	05 16	...	...	...		
		IL	47 37	...	...	...				eS?	05 38	...	...	...		
		M	49 11	12	...	...				PS	06 56	...	...	...		
		F	12 19 00	...	...	...				PPS	07 30	...	...	...		
" 15	E	e	12 54 00	...	...	...	Tremors. Aftershock of the pre- ceding one.			SR <sub>1</sub>	12 44	...	...	...		
		F	13 10 00	...	...	...				SR <sub>4</sub>	16 56	...	...	...		
" 17	E	e	13 20 00	...	...	...	Tremors.			L	28 41	...	...	...		
		F	14 12 00	...	...	...				M	36 15	23	...	...		
" 20	E	P	6 45 19	...	3,900		Epc : 24° S., 71° E. Indian Ocean. H=6h. 38m. 21s.			Mn	43 19	...	...	...		
		S	51 00	...	...	...				F	11 17 00	...	...	...		
		M	54 55	19	...	...										
		F	8 34 00	...	...	...										
" 20	E	iP	12 07 22	...	4,695		Epc : 17° N., 122° E. (U. S. C. G. S.) 14°10' N., 122° 5'E. H=11h. 59m. 13s. (Manila.) Destructive in Manila.			eP	19 00 16	...	...	...	Probable time correc- tion + 1 m. Epc : 52.5° N., 177° 5' W.	
		IS	13 50	...	...	...				i	00 23	...	...	...		
		ISR <sub>1</sub>	17 58	...	...	...				i	04 14	...	...	...	Aleutian Islands. H=18h. 48m. 29s.	
		IL	20 45	...	...	...				i	05 38	...	...	...	h=160–180 km. (J. S. A.).	
		Mn	26 00	23	...	...				SKS	10 38	...	...	...		
		F	18 07 00	...	...	...				i	11 15	...	...	...		
										PS	11 29	...	...	...		

TABLE D<sub>4</sub>—contd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1987.			H. M. S.	Sec.	μ	Km.		1987:			H. M. S.	Sec.	μ	Km.	
		i	11 44	...	...	...				i	58 26	...	...	...	
		i	16 20	...	...	...				e	10 04 09	...	...	...	
		L	28 30	...	...	...				e	04 55	...	...	...	
		F	21 49 00	...	...	...				L	21 11	...	...	...	
Sep. 3	E	e	22 42 00	...	...	...	Feeble shock.	Sep. 21	E	M	27 34 17	...	...		
		F	23 20 00	...	...	...				F	12 32 00	...	...	...	
, 4	E	e	6 28 34	...	...	...		" 21	E	IP	7 52 17	...	...	2,900	Epc: 21° N., 104° E. Deep?
		e	32 20	...	...	...				IS	57 00	...	...		
		e	34 25	...	...	...				SR <sub>1</sub>	58 15	...	...		
		ScPcS	39 00	...	...	...				L	59 49	...	...		
		e	39 52	...	...	...				M	8 02 12 23	...	...		
		i	40 07	...	...	...				F	54 00	...	...		
		PS	41 12	...	...	...		" 21	E	eP	9 48 34	...	...	5380	Epc: In the region of 4° N., 125° E. Celebes Sea. H=9h. 40·0m.
		e	41 48	...	...	...				PR <sub>1</sub>	50 21	...	...		
		SR <sub>1</sub>	48 14	...	...	...				PR <sub>2</sub>	51 07	...	...		
		e	50 25	...	...	...				IS	55 40	...	...		
		L	7 00 40	...	...	...				SR <sub>1</sub>	58 51	...	...		
		Mn	13 46 19	...	...	...				L	10 02 35	...	...		
		F	8 38 00	...	...	...				Mn	08 26 24	...	...		
" 8	E	e	0 58 49	...	...	14200	Probable time correction + 2 m. Epc: South Atlantic in the neighbourhood of Cape Horn. H=Oh. 40. Im. (U. S. C. G. S.)	" 21	E	F	?	...	...		Merged in the following shock.
		ScPcP	1 04 32	...	...					e	?	...	...		Merged in the preceding shock.
		ScPcS	07 54	...	...					F	11 56 00	...	...		
		ScPcPcS	09 40	...	...			" 21	E	e	21 22 00	...	...		Feeble shock.
		PS	13 10	...	...					F	22 27 00	...	...		
		Mn	25 41 19	...	...			" 22	E	IP	3 19 26	...	...	5,010	Epc. 12°3' N., 124° 3' E. Felt in eastern Visayas. (Manila).
		F	4 10 00	...	...					PR <sub>1</sub>	21 40	...	...		
9-10	...	...	...	...	...	...	Earthquake shock. Slight. Lines overlapping. Times uncertain. IS-IP=4m. 48.			S	26 11	...	...		
" 14-15	E	e	23 55 30	...	...	...	Feeble shock.			SR <sub>1</sub>	29 13	...	...		
		F	0 54 00	...	...	...				SR <sub>2</sub>	30 15	...	...		
" 15	E	IP	12 40 10	...	...	9,250	Epc: 9° S., 161° E. Solomon Islands. (U. S. C. G. S.). H=12h. 27m. 37s.	" 23	E	L	32 51	...	...		
		PR <sub>1</sub>	43 19	...	...					Mn	45 30 15	...	...		
		PR <sub>2</sub>	45 12	...	...					F	4 49 00	...	...		
		IS	50 32	...	...										
		PS	51 15	...	...										
		SR <sub>1</sub>	56 09	...	...										
		SR <sub>2</sub>	59 18	...	...										
		L	18 08 00	...	...										
		M	14 26 27	...	...										
		F	16 00 00	...	...										
" 16	E	eP <sub>1</sub>	0 08 40	...	...	...	Long distance shock. Phases not clear.	" 30	E	eP	21 59 07	...	...	9580	
		e	00 03	...	...	...				PR <sub>1</sub>	22 02 34	...	...		
		F	2 32 00	...	...	...				ScPcS	09 19	...	...		
" 17	E	e	9 49 8	...	...	...				S	?	...	...		
		e	53 44	...	...	...				L	22 29 36	...	...		
		i	55 26	...	...	...				Mn	38 29 20	...	...		
		e	56 50	...	...	...				F	23 28 ...	...	...		

TABLE D<sub>4</sub>—contd.

Date.	Compt.	Phase.	G.M.T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
Oct. 4	E	e	4 8 ...	...	...	...	Feeble shock.	Oct. 30	E	e	8 57 ...	...	...	...	Tremors.
	F	5 13 ...	...	...	...	...			F	9 18 ...	...	...	...		
" 4	E	e	6 43 ...	...	...	...	Tremors.	" 30	E	e	20 31 ...	...	...	...	Tremors.
	F	7 24 ...	...	...	...	...			F	20 50 ...	...	...	...		
" 4	E	e	8 38 ...	...	...	...	Tremors.	Nov. 2	E	e	11 6 ...	...	...	...	Feeble shock.
	F	10 7 ...	...	...	...	...			F	12 16 ...	...	...	...		
" 5	E	e	7 32 ...	...	...	...	Tremors.	" 7	E	S	19 17 28	...	...	...	
	F	8 4 ...	...	...	...	...			M	21 23 12 16·5	...	...	...		
" 12	E	I	21 10 25	...	...	...	Long distance feeble shock.		F	38 ...	...	...	...		
	F	22 37 ...	...	...	...	...			e	8 21 ...	...	...	...	Feeble shock.	
" 15	E	e	17 2 ...	...	...	...	Tremors.	" 10	E	F	54 ...	...	...	...	
	F	8 ...	...	...	...	...									
" 17	E	iP	4 57 28	...	6,845	Epc : 35°·7 N., 141°·9 E., Inubosaki (Strasbourg).	" 11	E	iP	0 5 27?	...	...	1935	Epc : 22°·5 N., 62° E. North Arabian Sea, H=0h. 0lm. 30s.	
	IS	5 5 57 ...	...	...	...				S	8 47 ...	...	...		No time marks. Times given are only approximate:	
	IPS	6 23 ...	...	...	...				L	10 27 ...	...	...			
	SR <sub>1</sub>	12 30 ...	...	...	...				Mn	16 12 12 15·4	...	...			
	eL	17 15 ...	...	...	...				F	1 19 ...	...	...			
	Mn	28 43 18 10	...	...	...			" 13	E	P	10 10 ...	...	...	Two earthquakes merged. Lines overlapping.	
	F	6 34 ...	...	...	...				F	12 40 ...	...	...			
" 20	E	eP	1 28 22	...	2,165	Beginning uncertain lines overlapping. Epc : 30°·0 N., 78°·2 E. near Dehra Dun. 0=1h. 24m. 00s.	" 13	E	e	18 45 ...	...	...	...	Feeble. Time marks not clear. Times approximate.	
	IS	32 1 ...	...	...	...				F	19 20 ...	...	...			
	iL	34 20?	...	...	...			" 14	E	iP	11 2 34	...	...	2,885	
	I	35 16 7 18	...	...	...				i	3 14 ...	...	...		Great. Absolute time uncertain due to indistinct time-marks.	
	F	4 10 ...	...	...	...				i	3 41 ...	...	...			
" 21	E	e	5 15 ...	...	...	...	Feeble shock.		IS	7 09 ...	...	...			
	F	43 ...	...	...	...	...			L	9 52? ...	...	...			
" 22	E	eP	16 19 29	...	2465	Epc : 0°·5 N., 96°·0 E., West of Sumatra. H=16h. 14·5m.]	" 14	E	M	12 ? ...	...	...			
	IS	23 32 ...	...	...	...			" 15	E	e	21 38 ...	...	...	Tremors.	
	ISR <sub>1</sub>	24 42 ...	...	...	...				F	13 28 ...	...	...			
	iL	25 51 ...	...	...	...				e	0 13 ...	...	...	Tremors.		
	M	27 49 18 8	...	...	...				F	27 ...	...	...			
	F	17 26 ...	...	...	...				eP	21 43 49	...	...	2,670		
" 24	E	e	12 00 ...	...	...	...	Feeble shock.	" 15	E	IS	48 04 ...	...	...		△ from (S-P). Time correction about -2m due to failure of time-marks.
	F	13 1 ...	...	...	...	...			SR <sub>1</sub> ?	49 23 ...	...	...		Epc : 34°·5 N., 77°·5 E. east Kashmir.	
" 25	E	e	7 43 ...	...	...	...	Tremors.		L	50 38 ...	...	...		0=21h. 37m. 34s.	
	F	8 33 ...	...	...	...	...			Mn	51 49 ...	...	...			
" 25	E	e	10 53 ...	...	...	...			F	23 41 ...	...	...			
	F	11 58 ...	...	...	...	...			eP	2 59 21	...	...	Feeble shock.		
" 28	E	e	4 43 ...	...	...	...	Nonseismic?	" 18	E	F	4 12 ...	...	...		Tremors.
	F	57 ...	...	...	...	...			e	4 53 ...	...	...			
" 29	E	eP	7 32 00	...	3,070	Epc : 37°·0 N., 70°·5 E. h=250-300 km. 0=7h. 26m. 30s.	" 19	E	F	5 8 ...	...	...		(1,565?) Feeble earthquake.	
	IS	36 22 ...	...	...	...				eP	22 17 26	...	...			
	I	37 39 ...	...	...	...				S	20 12 ...	...	...			
	M	40 52 5 16	...	...	...				L	21 ...	...	...			
	F	8 27 ...	...	...	...				M	22 12 13·0 6·0	...	...			
									F	56 ...	...	...			

TABLE D<sub>4</sub>--*contd.*

TABLE D<sub>4</sub>—concl'd.

Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.	Date.	Compt.	Phase.	G. M. T.	Period.	Amplitude.	△	Remarks.
1937.			H. M. S.	Sec.	μ	Km.		1937.			H. M. S.	Sec.	μ	Km.	
		Mn	36 11 9	20	...					S	27 05?	...	...	...	
		F	15 30 ...	...	...	...				L	36 50	...	...	...	
Dec. 20	E	S	5 07 49	...	...	...	L and M are weak and not readable. Epc : 29° N. 81° E. western border of Nepal. O = 4h. 59m. 60s.			F	2 40 ...	...	...	...	
		F	52 ...	...	...	...				eP	10 12 33	...	...	...	
" 22	E	eP	3 57 47	...	...	...	Distant slight shock. Epc : 17° N. 106° W. H.O = 8h. 37m. 17s. (U. S. C. G. S.)	Dec. 26	E		11 13 ...	...	...	...	
		F	6 50 ...	...	...	...									Feeble shock; lines overlapping.
" 23	E	...	...	...	...	...	Long distant shock of moderate intensity. Time cannot be read owing to overlapping of lines.	" 28	E	P	? ...	...	...	...	P lost under the clip.
" 24	E	...	...	...	...	...	Tremors, minute marks not clear.			IS	8 25 42	...	...	...	
" 24	E	e	6 40 40	...	...	...				L	33 45	...	...	...	
		L	7 31 50	...	...	...		" 28	E	Mn	39 33	25	13	...	Distant slight shock.
		Mn	42 42	24	24	...				F	4 52 ...	...	...	...	
		F	9 17 ...	...	...	...		" 31	E	P	6 38 08	...	...	...	
" 25	E	eP	1 19 10	...	...	6,245				F	9 09 ...	...	...	...	Distant feeble shock. Lines missing. Times uncertain.

A. L. NARAYAN,  
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TABLE D<sub>5</sub>.

The following table contains a list of earthquakes that are reported by voluntary observers from various stations.

TABLE D<sub>5</sub>.

TABLE D<sub>5</sub>—contd.

Place at which felt.	Date.	G.M.T. earth- quake.	Dura- tion.	Inten- sity (Rossi- Forel scale).	Number of shocks.	Remarks.	Place at which felt.	Date.	G.M.T. of earth- quake.	Dura- tion.	Inten- sity (Rossi- Forel scale).	Number of shocks.	Remarks.
	1937.	H. M.	Secs.					1937.	H. M.	Secs.			
Gurez . . .	Nov. 7	19 12	25	6	3		Drosh . . .	Nov. 14	11 00	abt. 132	9	1	Buildings fell down. Ground fissure occurred.
Drosh . . .	" 7	18 48	abt. 20	6	2		Swabi (N. W. F. P.) .	" 14	13 05	" 60	...	1	
Lahore . . .	" 14	11 00	" 60	9	2		Mussoorie . . .	" 14	11 00	" 23	4	2	
New Delhi . . .	" 14	10 58	" 105	7	1		Gillgit . . .	" 14	10 52	10	6	Several	
Roorkee . . .	" 14	11 00	" 60	5	3		Dras . . .	" 14	11 05	90	7	More than 10.	
Sialkot . . .	" 14	11 02	" 10	5	3		Gurez . . .	" 14	11 05	70	9	5	Cracked all the walls of Fort building and dismantled the chimney top throughout.
Peshawar . . .	" 14	10 58	220	6	...	Verandah on 3rd floor of new building in cantonment collapsed. Older bungalows had moderate falls of materials from walls.	Sonemarg . . .	" 14	11 05	110	6	2	
		11 02	{				Kargil . . .	" 14	11 30	2	6	3	
Simla . . .	" 14	11 02	abt. 12	5	1		Kabul . . .	" 14	10 56	90	7	1	
Miranshah . . .	" 14	10 59	120	7	2		Skardu . . .	" 14	11 00	135	8	5	
Dehra Dun . . .	" 14	11 02	abt. 2-3	3	1		Murree . . .	" 14	11 07	...	4	...	
D. I. Khan . . .	" 14	11 03	" 30	6	4		Simla . . .	" 15	11 10	1½	4	...	
Multan . . .	" 14	11 00	" 120	5	...		Srinagar . . .	" 15	21 43	abt. 2	7	2	
Cherat . . .	" 14	11 02	80	9	Many.	Big stones slipped down from hills and blocked the roads.	Drosh . . .	" 16	14 00	" 2	6	1	
Ambala . . .	" 14	11 05	abt. 15	5	3		Drosh . . .	" 19	04 10	" 10	6	1	
Rawalpindi . . .	" 14	11 00	" 180	8	3-4		Shillong . . .	" 20	17 07	" 5	4	1	
Srinagar . . .	" 14	11 07	" 8	9	5	Two boys fell down from windows and received injuries.	Drosh . . .	" 21	00 46	" 30	4	1	
							Simla . . .	" 24	17 33	1	6	1	
							Gauhati . . .	Dec. 7	21 55	abt. 30	5	1	
							Gauhati . . .	" 9	22 12	" 30	5	2	
							Dhubri . . .	" 9	22 15	12	6	3	
							Yatung (Tibet) . . .	" 13	15 40	abt. 2	5	1	

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Meteorologist, Meteorological Office, Poona.

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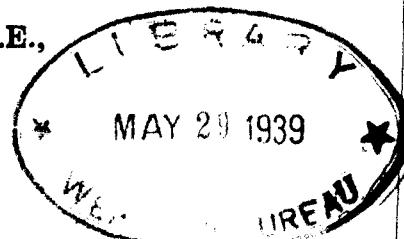
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# INDIA WEATHER REVIEW, 1937.

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